

H-Gram 041: SS *Henry Bacon*, Early 1945 U.S. Submarine Successes, SS *Badger State*, and Bathyscaphe *Trieste*

5 February 2020

This H-gram continues coverage commemorating the 75th anniversary of World War II and also touches upon the Vietnam conflict and the Navy deep-sea exploration feats:

U.S. Liberty ship SS *Henry Bacon*, last ship to be sunk by German aircraft on the Murmansk run

U.S. submarine successes in the Pacific in January-February 1945

Ordeal and loss of the ammunition ship SS *Badger State*, December 1969

60th anniversary of U.S. Navy bathyscaphe *Trieste*'s dive in the Mariana Trench

As always, broad dissemination is welcome and encouraged—some of these stories are incredibly inspiring. This H-gram may also give some appreciation of the sacrifice of our Merchant Marine brothers. “Back issue” H-grams may be found here [<https://www.history.navy.mil/about-us/leadership/director/directors-corner/h-grams.html>]



Bathyscaphe Trieste at sea just before its record dive in the Mariana Trench, with destroyer escort USS Lewis (DE-535) in background. Waves were about five to six feet high when Lieutenant Don Walsh and Swiss engineer Jacques Piccard boarded from the rubber raft attached to the bathyscaphe, 23 January, 1960 (USN 710619).

75th Anniversary of World War II

Forgotten Valor: LTJG Sippola and the Loss of SS Henry Bacon, 23 February 1945

Separated from her convoy by a steering casualty and a hurricane-force storm, the U.S. Liberty ship SS Henry Bacon was caught alone in the northern Norwegian Sea by an overwhelming force of German Ju-188 torpedo bombers. Her Navy Armed Guard, under Lieutenant (j.g.) John

Sippola, put up a ferocious resistance, thwarting all but the last torpedo attack in an action described by Navy historian Samuel Eliot Morison as "no finer instance of merchant ship defense in the history of North Russian convoys." With some lifeboats and life rafts smashed by the storm and the torpedo hit, there was not enough room for 19 Norwegian refugees (16 women and children) and all of the crew and Navy gunners. Some of the crew were thus faced with the option of dying in the icy water or going down with the ship; the latter was the course chosen by the captain and the ships' senior personnel. Sippola and six of his Navy gunners survived for three hours on a makeshift raft, with Sippola refusing rescue until all six of his men were aboard the rescue ship. At that point, he succumbed to the cold, with a line just outside his grasp. He would be awarded a posthumous Silver Star. Of the 86 souls on board, 15 Merchant Mariners and seven Navy gunners perished on what was the last Allied ship to be sunk by German aircraft on the notoriously dangerous Murmansk run.

I'm not normally much for poetry, but I thought this tribute to Henry Bacon worth the read:

To the Bacon Crew:

The Steamer was the Henry Bacon / The name we remember so well;

She was searching for the long lost convoy / When down came the Angels of Hell.

The planes came quick and were many / The number I believe was twenty-three;

But five were shot down by the Gunners / And went plunging to death in the sea.

Walker, who was a Navy Gunner / Was manning number seven, we know;

Saw a "Jerry" coming in from the starboard / And sent her flaming to the waves below.

But the odds were still against them / They were waging a losing fight;

And knew that without help from the escorts / That death might be riding that night.

Then came death and destruction / She was hit just abaft the beam;

But the Gunners still manned their stations / And abandoned were the rest of the crew.

Now the Chief Engineer was an old fellow / Said, "Boys, I've lived my time;

There's no more room in the lifeboat / So one of you young fellows take mine."

That was something we can never forget / He would never survive it, he knew;

Still he gave his last chance for life / For the sake of the rest of the crew.

There were also passengers aboard / But they all got safely away;

Leaving officers and crew aboard her/ To go down with their ship that day.

The Captain was a fellow we all admire / Stayed on the bridge to the end;

Would rather rest on the bottom forever / Than to go back without all of his men.

Joe's the guy who sails bo's'n / But was making this trip as an A.B.;

Saw the others away in the lifeboats / Then plunged in the icy sea.

Then there were others who followed / Not knowing if they would survive;

*But knew that they were useless to their country
/ Unless they made it back here alive.*

*For hours they stayed in the water / Some died
in that cold Arctic Sea;*

*But they knew that the lives they were giving /
Would keep us all happy and free.*

*Some were rescued by English destroyers /
Who heard their "S.O.S." from faraway;*

*And rushed there as quick as possible / Lest
they should go down that day.*

*Those brave men we will always remember /
They were shipmates to you and to me;*

*They gave their homes and their loved ones /
For an unknown grave in the sea.*

*Perhaps their names will never be heard of /
Just sailors in the Merchant Marines;*

*But they've kept Old Glory waving / Though we
don't realize how much that means.*

*So gather close around the table / Let's drink a
toast to the Bacon and crew;*

*Let's give them a word of thanks, Boys / They
gave up their lives for you.*

*(From "The Last Voyage of the SS Henry Bacon"
by Lloyd D. Carver, SS Horace Gray)*

*For more on SS Henry Bacon, please see
attachment H-041-1.*

USS Barb (SS-220) Sinks an Aircraft Carrier, Penetrates a Harbor, and Blows Up a Train

*In the night on 23 January 1945, USS Barb boldly
penetrated Namkwan Harbor on the coast of
China, where two Japanese convoys of almost 30
ships had sought refuge. Firing all ten torpedo
tubes, Barb probably sank four cargo/transport*

*ships (one of which blew up in a spectacular
explosion) and damaged three others. In order to
escape, Barb had to run at high speed for over an
hour on the surface through shallow and mined
water. For this action, Barb's commanding officer,
Lieutenant Commander Eugene Fluckey, was
awarded the Medal of Honor (to go with four Navy
Crosses) and Barb a Presidential Unit Citation. On
a previous war patrol, Fluckey and Barb had sunk
the Japanese escort carrier Unyo. On the next
deployment (Barb's 12th and last), she became
the first submarine in history (and the only one in
World War II) to fire rockets at shore targets. Barb
conducted rocket and gunfire attacks on shore
installations on Hokkaido, Sakhalin and the
southern Kuril Islands, and, on 22-23 July 1945,
put a landing party ashore on the coast of Sakhalin
that blew up a train (the only "ground combat" on
the Japanese home islands during World War II).
For more on USS Barb, please see attachment H-
041-2.*

USS Blackfin (SS-322) Sinks Japanese Destroyer Shigure, 24 January 1945

*On 23 January 1945, USS Blackfin ended a series
of frustrating patrols by sinking the legendary
Japanese destroyer Shigure in the South China
Sea. Shigure had a reputation in the Japanese
navy as "unsinkable," having fought in numerous
pitched battles, and was the sole survivor of two
(Vella Gulf in 1943—where she'd been hit by a
torpedo that failed to explode—and Surigao Strait
in 1944, where she was badly battered, but
survived). During her career, she was hit by bombs
twice, and had rescued hundreds of survivors of
other Japanese ships. For more on USS Blackfin,
please see attachment H-041-3.*

USS Batfish (SS-310) Sinks Three Japanese Submarines, February 1945

*Like Blackfin, Batfish put an end to a series of
frustrating patrols by sinking three Japanese
submarines off northern Luzon between 10 and 13
February 1945. Tipped off by Ultra code-breaking
intelligence, Batfish was waiting in ambush as the*

Japanese attempted to extricate Japanese pilots and aircrew from Luzon (the Japanese in the Philippines had run out of aircraft before pilots). Batfish was also aided by new passive radar-detection gear (early ESM) to detect newly installed radars on Japanese submarines. All three submarines were lost with all hands, and only one of the four assigned to the evacuation mission succeeded. One of the Japanese submarines (RO-112) had been warned by Japanese radio intelligence and narrowly avoided being caught by USS England (DE-635) when the destroyer escort sank six Japanese submarines in May 1944. On a previous war patrol, Blackfin had finished off the destroyer Samidare (which was grounded on a reef). Although not as famous as Shigure, Samidare may very well have put more torpedoes into more U.S. ships than any other Japanese ship (Battles of Java Sea, Guadalcanal–12-13 and 14-15 November 1942–Vella LaVella, and Empress Augusta Bay). For more on USS Batfish, please see attachment H-041-4.

50th Anniversary of the Vietnam War

The Ordeal of SS Badger State, December 1969

Caught in a ferocious north Pacific storm, the crew of SS Badger State struggled valiantly as the cargo of over 8,900 bombs destined for use in Vietnam began to shift, with some finally breaking loose. On 26 December 1969, one of the bombs exploded, starting fires and blowing a hole in the side of the ship, with the risk of additional detonations. With one lifeboat and other survival gear smashed by the continuing storm, 35 of the ship's 40 crewmen were loaded into the one remaining lifeboat. However, at a critical moment, a 2,000-pound bomb rolled out of the hole in the side of the ship and landed on the lifeboat, causing it to capsize and spill everyone into the cold water, where albatrosses pecked at those trying to stay afloat. The ship's captain and four others who had remained aboard were forced to swim for it. The Greek freighter Khian Star was

recognized for her heroic work in saving as many crewmen as possible, but in the end only 14 survived, including the captain, and 26 Merchant Marine sailors were lost. Badger State drifted for days while on fire and with bombs exploding, but finally sank just as the U.S. Navy ocean tug Abnaki (ATF-96) was ordered to sink her with gunfire. For more on SS Badger State, please see attachment H-041-5.

60th Anniversary

Bathyscaphe Trieste and the First Dive to Deepest Part of the Oceans, January 1960

On 23 January 1960, Navy Lieutenant Don Walsh and Swiss engineer Jacques Piccard descended in the U.S. Navy bathyscaphe Trieste to the deepest part of the oceans, Challenger Deep in the Mariana Trench near Guam, reaching bottom at 35,797 feet. More people have walked on the surface of the moon than have been to Challenger Deep. No further attempt was made to reach that depth again until 2012, and only in 2019 did a manned submersible (Limiting Factor) go deeper than Trieste (by 52 feet.) Don Walsh (Navy Submersible Pilot No. 1) had been waved off from applying for the Navy Nuclear Power Program due to his class standing at the Naval Academy. He would get the last laugh as the only Navy lieutenant wearing a Legion of Merit (personally presented by President Dwight D. Eisenhower) He would go on to be one of the first officers in the Navy to earn a doctorate on active duty and, after retirement as a captain, would go on to be a world-renowned and much-honored ocean scientist and explorer. Trieste is on display at the National Museum of the U.S. Navy, on the Washington Navy Yard. For more on Trieste, please see attachment H-041-6.



Undated photo of an Allied convoy in Norwegian waters, circa 1943–45 (NH 111882).

H-041-1: Forgotten Valor—LTJG Sippola and the Ordeal of the *SS Henry Bacon*, 23 February 1945

H-Gram 041, Attachment 1
Samuel J. Cox, Director NHHC
February 2016

On 17 February 1945, the 7,177-ton U.S. Liberty ship *SS Henry Bacon* (one of 2,710 built during the war) departed Murmansk, Soviet Union, en route Scotland as part of Convoy RA-64. Having delivered her cargo of a locomotive and other Lend-Lease supplies, *Henry Bacon* was in ballast on the return trip of the dangerous “Murmansk run.” The ship, under the command of Captain Alfred Carini, had a crew of 40 Merchant Mariners and a Navy Armed Guard of 26 men under Lieutenant (j.g.) John Sippola. These personnel manned the 5-inch gun on the stern, the 3-inch gun on the bow, and eight 2-mm anti-aircraft guns. *Henry Bacon* was also transporting 19 Norwegian refugees, which included 16 women (one “with child”) and children.

The Norwegian refugees were part of a group of 500 that had been rescued in a daring operation by four Allied destroyers from the island of Soroya at the entrance to Altafjord, which had been the lair of the elusive German battleship *Tirpitz* until she had finally been sunk at Tromso by British bombers in November 1944. As the Soviets had advanced across what was then the extreme north of Finland into the most northeastern part of Norway, the Germans had engaged in a brutal “scorched earth” campaign, leaving absolutely nothing that could be of any possible use to the Soviets. Thousands of Norwegian civilians were forced into internment camps, while those who fled faced execution if caught and starvation if not. The civilian population on Soroya resisted and fled into the hills, but, as the winter went on, became increasingly desperate. The Soviet advance had stopped after the Germans burned and destroyed everything, so there was no hope of liberation by the Red Army.

When northbound Convoy JW-64 had arrived at Murmansk in February 1945, three British destroyers and one Canadian destroyer had been detached to make a dash to Soroya; two of the destroyers picked up 500 Norwegian civilians from the north and south ends of the island, while the other two provided cover against German

interference, which did not materialize. Upon the destroyers' return to Murmansk, the Norwegians were divided among the 38 ships that would return to the United Kingdom as Convoy RA-64.

To return to Britain, RA-64 would have to run a gauntlet of German U-boats waiting just outside the Kola inlet to Murmansk, and then get through German torpedo bombers deployed to airfields in the far north of Norway. The German U-boats were much less fearful of Soviet anti-submarine capability than they were of the vastly improved British and U.S. capability, so by then most U-boat attacks on the Murmansk run took place between the North Cape of Norway and Murmansk in the Barents Sea.

During the northbound convoy, JW-64 (which included *Henry Bacon*), German U-boats succeeded in sinking only one Norwegian-flag tanker and the British corvette HMS *Denhigh Castle*, while also badly damaging the U.S. liberty ship *SS Horace Gray*, which was towed into the Kola inlet, but written off as a loss. Two German torpedo bombers were claimed as shot down by U.S. Navy Armed Guards on the *SS Nathan Towson* and *SS Edwin Drakeon* 10 February 1945.

The Murmansk run was probably the most dangerous convoy route during the war, especially since anyone who ended up in the frigid waters would not survive for long. Between the commencement of the Murmansk convoys in August 1941 and the end of the war, 40 northbound convoys with 720 ships made the transit, with the loss of 63 ships. In 35 southbound convoys, 707 ships made the transit and 27 were lost. Convoy escorts sank 27 German U-boats, but at a loss of two cruisers, six destroyers, and ten smaller escorts, all of the Royal Navy. One Free Polish navy submarine was sunk by "friendly fire."

At least three German U-boats were waiting for Convoy RA-64 to depart Murmansk and the battle was on almost immediately. The British sloop HMS *Lark* and corvette HMS *Alnwick Castle*

sank *U-425*. *Lark* stopped to rescue survivors from the U-boat and was hit in the stern by a torpedo from *U-968*. The sloop didn't sink, but was towed into Murmansk, declared a loss, and handed over to the Soviets. *U-968* then torpedoed the U.S. liberty ship *Thomas Scott*, but all 109 aboard were rescued before she sank. The British corvette HMS *Bluebell* was hit in the stern by an acoustic homing torpedo from *U-711*, which detonated her depth charges in a catastrophic explosion and sank her in 30 seconds with the loss of all but one of her 86 crewmen. Nevertheless, the remaining 37 ships of the convoy made it through, only to encounter some of the worst weather ever recorded in the Barents Sea.

By the afternoon of 18 February, the weather had deteriorated to a full gale and intensified overnight causing the convoy to scatter. On 20 February, the storm abated some and convoy escorts were able to round up most of the stragglers and regroup, although the convoy was detected and tracked by German scout aircraft. However, on 22 February the convoy encountered a full Beaufort scale force 12 storm, with hurricane force winds of 70-90 knots. *Henry Bacon* was badly battered by the storm, suffering damage to her steering gear. A davit to one of the four lifeboats was smashed, rendering the lifeboat unusable. By dawn on the 23rd, *Henry Bacon* was alone, about 40-50 miles from the main body of the convoy, and, due to confusion, was actually heading in the opposite direction as the convoy.

In the meantime, 26 German torpedo bombers of *Kampfgeschwader* (KG) 26 had forward deployed from Trondheim-Værnes to Bardufoss, located about 250 nautical miles from the convoy. According to German records (which are typically meticulous), after a delay due to the adverse weather, 19 aircraft launched for a strike on the convoy on 23 February 1945. Because of the bad weather, only the best pilots flew the mission, and even then not all of them found the target. The aircraft were mostly newer Ju-188 A-3 twin-engine high-speed bombers (a follow-on improvement to

the excellent and versatile Ju-88) that carried two torpedoes each. In their search for the convoy, the German torpedo bombers first sighted *Henry Bacon*, still alone, in mid-afternoon on 23 February. The Germans opted to attack and commenced flying in a circle around the ship at an altitude of 20-30 feet. At intervals, two German aircraft would break from the circle and attack from opposite sides of the ship, a German version of the classic "hammer-and-anvil" torpedo attack.

Exactly what happened in the battle that followed is not completely clear, and different accounts vary as to details. Witnesses on the ship reported 23 German aircraft, which is more than were launched. Morison reports that the attack went on for 65 minutes, while other timelines are not clear. What is clear is that the combination of high seas, which caused torpedoes to go awry, incredible seamanship by Captain Carini in avoiding torpedoes (at least ten were near misses), and a hellacious defense by the Navy Armed Guard (described by Morison as "no finer instance of merchant ship defense in the history of North Russian convoys") disrupted and thwarted repeated attacks.



A view of the port side of a German Ju-188A-3 multi-purpose bomber, with Hohentwiel UHF surface-search radar aerials, circa 1944-45 (Bundesarchiv, Bild 101I-497-3502-20/Boger/CC-BY-SA 3.0).

One of the first two torpedo bombers was shot down, reportedly by a direct hit on an underslung torpedo, which made the Germans more cautious in pressing home attacks. Several torpedoes were reportedly detonated by machine gun fire from the ship. Some accounts say 36 or even 46 torpedoes were launched, although that is excessive. The last German aircraft to attack pressed home and was rewarded by being shot down after dropping a torpedo, but at that point *Henry Bacon's* damaged rudder failed to respond to the helm and the ship was unable to maneuver. The torpedo hit portside aft in the Number 5 hold, also detonated an after ammunition magazine, and destroyed the rudder, propeller, and steering motor. Somewhat amazingly, no one was killed by the torpedo explosion. The ship quickly began to settle.

The Germans broke off the attack after the torpedo hit, although one plane stayed behind to observe whether *Henry Bacon* sank. By this time, light was fading and the Germans made no attempt to find or attack the rest of the convoy, so *Henry Bacon's* heroic defense quite likely saved other ships. Witnesses on the ship reported that five German aircraft were shot down and four were damaged, which Morison accepted. The post-war Maritime Commission report stated three were shot down. German records show one Ju-188 A-3 was shot down: *Werknummer* (manufacturer's number) 190604 of the 7./KG 26 (part of III. *Gruppe*/KG 26) flown by *Hauptman* (Captain) Fischer with three crewmen, all MIA. One Ju-188 A-3 (*Werknummer* 190348 of the 8./KG 26) is noted as having "disappeared," with all four crewmen MIA. One Ju-188 A-3 made it back to base without casualties, but damage to one engine was irreparable. Another Ju-188 A-3 suffered a gear collapse on landing, but was repaired. Regardless of how many planes were actually shot down, given the overwhelming odds, the actions of the Navy Armed Guard on *Henry Bacon* were among the most distinguished and heroic of the war.

As it became apparent that *Henry Bacon* was going to sink, Captain Carini gave the order to abandon ship. He ordered that the Norwegian refugees get in the first boat, along with the youngest and most able-bodied seamen (to control the boat in the heavy seas), and the ship's first radio officer (to operate the small lifeboat radio transmitter), to give that boat the best chance. Before departing the ship, the radio officer left the ship's radio keyed on the distress frequency, which provided a beacon to British destroyers that were racing to the scene, but were still over two hours away (which was not known to anyone on *Henry Bacon* due to strict radio silence measures by the convoy and escorts).

For the second boat, Carini ordered a number of seats be given to the Naval Armed Guard. The ship's chief engineer, Donald Haviland, said he'd lived a long life and gave up his seat in the boat to a young sailor, subsequently joining Captain Carini on the bridge. Unfortunately, the third lifeboat nosed into the water as it was being lowered and capsized. Accounts vary as to what happened to the four large life rafts. The Maritime Commission report states that two were lost in the storm. One was definitely cut loose too soon and drifted away before anyone could get in.

With no lifeboats or rafts left, those still aboard had the unpalatable choice of jumping in the frigid waters or going down with the ship. With the captain's encouragement, most stayed aboard as long as possible in hopes that the slowly sinking ship would stay afloat long enough for rescue to arrive. Several of the Navy gunners had volunteered to remain aboard in case the Germans came back while the lifeboats were being loaded. Boatswain Holcomb Lammon, Jr., fashioned several makeshift rafts out of timbers that had been used to brace the locomotive, and had the gunners, including Sippola, get aboard one shortly before *Henry Bacon* went under. When the ship finally went under, some crewmen were killed by falling debris, including one of the Navy gunners.

Captain Carini and Chief Engineer Haviland remained on the bridge and chose to go down with the ship. Lammon died in the water just as the rescue ships came in sight. (Chief Engineer Haviland would be awarded a Merchant Marine Distinguished Service Medal and Boatswain Lammon a Merchant Marine Meritorious Service Medal).

Those who were in the lifeboats survived, although they probably wouldn't have if the rescue ships had not arrived just before nightfall. The British destroyers *Zambesi*, *Opportune* and *Zest* reached the scene, guided by the radio beacon. *Opportune* was ordered to take aboard those in the lifeboats, while *Zambesi* went after those on rafts or clinging to wreckage, and *Zest* guarded against German attack. Most of those on the one ship's raft survived, although some froze to death even on the raft and others were unable to get aboard the rescue ships due to hypothermia, exhaustion, the rough seas, or their injuries. Four Navy gunners died when they were being hoisted aboard and the line hooked to their life jackets caused the jackets to rip open and they fell back into the sea.

Most of those who were in the water died of hypothermia before they could be rescued. The rescue ships did not attempt to retrieve bodies of those who were obviously dead, and these were never found—with one exception. The body of one of the Navy gunners who died in the water, Seaman First Class Mason Kirby Burr, washed ashore in 1949 encased in a block of ice, and was subsequently buried at Arlington National Cemetery.

Zambesi came alongside the makeshift raft with Sippola and six Navy gunners. Sippola refused rescue until every one of the gunners made it up the lines to the ship. However, the line thrown to him went long, and when he came off the raft to retrieve it, he sank and was lost, having never seen his first child, born while he was aboard

Henry Bacon. Sippola would be awarded a posthumous Silver Star for having:

...cooly directed a steady barrage of gunfire against the savagely striking aircraft and, fighting off the furious attack for approximately twenty minutes, succeeded in damaging three and destroying five others before a German torpedo struck with deadly accuracy in the No. 5 hold, sinking the ship and forcing the survivors into the icy, heavily rolling seas. Adrift and clinging to a life raft with six of his crew when a British rescue vessel subsequently came alongside, Sippola steadfastly refused to accept aid for himself until lines were secured to each man and were taken safe aboard the rescue ship. Weakened by exposure to the icy waters and by the strenuous physical effort expended in saving his men, he was unable to remain afloat long enough to reach the lines thrown to himself and sank, overcome by exhaustion. His unfaltering leadership, valiant fortitude and self-sacrificing devotion to duty in the face of extreme peril upheld the highest traditions of the United States Naval Service. He gallantly gave his life in the service of his country.

In the end, of the 86 people aboard *Henry Bacon*, 15 Merchant Mariners were lost, including Captain Carini, the first mate, second mate, chief engineer, the first and second assistant engineers, and the boatswain. In addition, seven of the Naval Armed Guard were lost, including the three gunners who stayed behind to the last to defend the ship, and Lieutenant (j.g.) Sippola. All 19 of the Norwegian refugees were saved thanks to the sacrifice of HENRY BACON's crew and the Armed Guard. King Haakon of Norway honored all crewmen with the award of the Norwegian War Medal. Captain Carini was awarded the Norwegian War Cross with Swords by the king, one of only two U.S. persons to be given the award. Carini was also awarded the Mariner's Medal (a Purple Heart-equivalent) by the U.S. War Shipping Administration.

During World War II, the U.S. Merchant Marine expanded from about 55,000 personnel to about 250,000. As there was no central record keeping (or historians), the exact number of casualties is unknown, but about 8,650 died at sea, and another 11,000 were wounded, of which 1,100 subsequently died. Approximately one out of 29 Merchant Mariners died during the war, making it about as dangerous as the U.S. Marine Corps in terms of percentage lost. Of the approximately 4,200 U.S. merchant ships by the end of the war, 733 ships (over 1,000 gross tons) were sunk, 31 of them without a trace. Even before the war, 17 U.S. Merchant ships were sunk and 200 Merchant Mariners were lost as a result of German U-boat attacks. Even after the war ended, at least 42 U.S. Merchant ships were sunk and about an equal number damaged between 1945 and 1950, mostly due to striking leftover mines. It should also be noted that a U.S. merchant sailor's pay stopped as soon as his ship was sunk, i.e., the sailor was "unemployed" from the time he went into the water until he could sign on another ship, assuming he survived. U.S. merchant sailors who served in World War II were not granted veteran's status or benefits until legislation was passed in 1988.

During World War II, 144,970 U.S. Navy Armed Guards served on 6,236 ships and suffered a casualty rate comparable to that of the U.S. Marine Corps. At least 1,810 were killed or missing in action. During the war, members of the Navy Armed Guard were awarded six Navy Crosses, two Legion of Merits, 75 Silver Stars, 54 Bronze Stars, 24 Navy and Marine Corps Medals, 563 Commendations by the Secretary of the Navy, and 2,778 Commendations by the Bureau of Naval Personnel.

As a postscript, many of the survivors of *Henry Bacon* would be transferred to the British destroyer *Zealous*. (*Zealous* would have the dubious distinction of being the first ship sunk by an anti-ship missile when, in the service of the Israeli navy as INS *Eilat*, she was hit by three Styx

missiles fired by Egyptian missile boats off Port Said, Egypt on 21 October 1967.) *Henry Bacon* was the last Allied ship to be sunk during the war by German torpedo bombers, and the mission against *Henry Bacon* was the last flown against Arctic convoys by the Germans.

My thanks to RADM (Ret). Kenneth Braithwaite, U.S. Ambassador to Norway—and an avid H-gram reader—for bringing this action to my attention a couple years ago, as I had not remembered it. Also thanks to Marty Bollinger for sharing his detailed records and insight into Luftwaffe operations. Sources include The Last Voyage of the SS Henry Bacon, by Donald R. Foxvog and Robert I. Alotta, Paragon House, Saint Paul, MN, 2001; The Atlantic Battle Won—Vol. X., History of United States Naval Operations in World War II, by Samuel Eliot Morison, Little Brown and Co., Boston, 1957; NHC Dictionary of American Fighting Ships (DANFS); and the website uboat.net for German submarine information.



Battle flag used while USS Barb (SS-220) was commanded by Commander Eugene B. Fluckey, circa 1945 (NH 63789-KN).

H-041-2: USS *Barb* (SS-220) Sinks an Aircraft Carrier, Penetrates a Harbor, and Blows Up a Train

*H-Gram 041, Attachment 2
Samuel J. Cox, Director NHHC
February 2020*

USS *Barb* (SS-220), was commissioned on 8 July 1942, and initially assigned to Submarine Squadron 50, in which she was one of six U.S.

submarines assigned to operate in the eastern Atlantic—based on a personal request from British Prime Minister Winston Churchill to President Franklin Roosevelt, over the objection of Chief of Naval Operations Ernest J. King. The theory was the longer endurance of American submarines might make them useful ambushing German U-boats.

On *Barb's* first war patrol, she participated in Operation Torch, the Allied invasion of North Africa in November 1942, by providing pre-landing reconnaissance, beacon services, and landing a five-man team of U.S. Army Rangers just prior to the landings at Safi, Morocco. *Barb's* next

four patrols were unproductive, which was generally the case with the rest of the SUBRON 50 boats. In the spring of 1943, CNO King finally prevailed in his desire to have all U.S. submarines sent to the Pacific and, by the summer of 1943, the squadron was disbanded. One of the SUBRON 50 boats, *Blackfish* (SS-221), may have the distinction of being the only submarine to be depth-charged by three different navies: by a Vichy French destroyer off Senegal during Torch; by a German patrol boat in the Bay of Biscay (after sinking German patrol boat 408); and multiple times by Japanese ships in the Pacific. She survived them all (barely, in the case of the Germans, as she bottomed out at 365 feet).

Barb's sixth war patrol (and first in the Pacific) along the China coast was action-packed (especially when she bottomed out at 375 feet during a Japanese attack), but was frustrating and unproductive. On her seventh war patrol, with Commander Eugene Fluckey on board as prospective commanding officer, *Barb* had a little more luck, sinking *Fujusei Maru* (which was assessed as a possible Q-ship) and participating with *Steelhead* (SS-280) in shelling a phosphate plant on the island of Okino Daito Jima, east of Formosa.

Eugene "Lucky" Fluckey (it rhymes) graduated from the U.S. Naval Academy in 1935. After initial service aboard the battleship *Nevada* (BB-36) and destroyer *McCormick* (DD-223), he transferred to submarine duty, serving on *S-42* (SS-153) and *Bonita* (SS-165), including five uneventful "war patrols" defending the Panama Canal on *Bonita*. He assumed command of *Barb* in late April 1944. After the war, he went on to a very distinguished career that included personal aide to Chief of Naval Operations Chester Nimitz and command of *Halfbeak* (SS-352), Submarine Division 12, submarine tender *Sperry* (AS-12), and Submarine Squadron 5. He was promoted to rear admiral in July 1960, and served as commander, Amphibious Group 4, president of the Board of Inspection and Survey, director of Naval

Intelligence (1966-68), and chief of the Military Advisory Group to Portugal before his retirement in August 1972. During his World War II service, he would be awarded the Medal of Honor and four Navy Crosses, making him one of the most combat decorated officers in the history of the U.S. Navy.

Eighth War Patrol

Barb's eighth war patrol, her first with Fluckey in command, was in the Sea of Okhotsk, north of Hokkaido, between 21 May and 9 July 1944. This proved to be a very dangerous area as *Herring* (SS-223) was sunk just after a rendezvous with *Barb* in the Kuril Islands. *Herring* sank the *Hokuyo Maru* and the escort ship *Ishigaki* before falling victim to Japanese shore battery fire on 1 June. (*Ishigaki* had previously sunk U.S. submarine *S-44* [SS-155] on 7 October 1943, which had in turn sunk Japanese heavy cruiser *Kako* in August 1942 as *Kako* was returning from the Japanese victory at Savo Island. *Kako* was the first major combatant to be sunk by U.S. submarines during the war, but by no means the last.) In addition, *Golet* (SS-361) disappeared on the way to the Kurils and was possibly sunk by a Japanese mine on 14 June 1944.

Despite multiple Japanese ASW attacks, *Barb* had a very successful patrol in the Sea of Okhotsk, sinking five major cargo ships (for a total of 15,472 tons) and a number of trawlers and sampans. Fluckey was awarded his first Navy Cross for this patrol.

Ninth War Patrol

Barb's ninth war patrol, from 4 August to 3 October 1944 in the South China Sea between Formosa and the Philippines, was very eventful and successful. *Barb* operated as part of a wolfpack ("Ed's Eradicators") that included *Queenfish* (SS-393) and *Tunny* (SS-282). Alerted by Ultra Intelligence, Ed's Eradicators and another

wolfpack ("Ben's Busters") converged on the large and heavily-escorted Convoy MI-15. *Queenfish* initiated the attack and sank two ships including *Chiyoda Maru*, which went down with 385 passengers and 15 of her crew. Then, *Barb* commenced an attack, sinking the cargo ship *Okuni Maru* (one of the most famous photos of the war) and damaging the tanker *Rikko Maru*, which had to be beached (some accounts credit *Queenfish* with this hit). *Barb* then maneuvered to attack *Hinode Maru No. 20*, an auxiliary minesweeper being used as a decoy (Q-ship). However, a bird perched on the periscope and blocked the view. *Barb* lowered the scope and then raised it again, but the bird perched again. *Barb* then lowered the scope and then raised both scopes a couple seconds apart, which fooled the bird. *Barb* fired three torpedoes and hit with at least two, sending *Hinode Maru No. 20* to the bottom along with the commander of Mine Squadron 45. The next day, *Barb* was damaged by two near-miss bombs from a Japanese aircraft, but Fluckey opted to continue the mission.

On 9 and 14 September, *Barb* made unsuccessful attacks, including surviving being caught on the surface in the searchlight of a Japanese destroyer, which opened fire. Fluckey noted in the log, "Set new record for clearing the bridge."

On 16 September, *Barb* received a message to assist in the search for Allied POW survivors of *Rakuyo Maru*, which had been sunk on 12 September by *Sealion* (SS-315). While on the way, *Queenfish* and *Barb* encountered a large Japanese convoy and attacked (*Tunny* had been damaged in an air attack on 31 August and was returning to port). *Queenfish* attacked first with no reported hits. As *Barb* was closing in on a Japanese tanker, Fluckey recognized that there was an escort carrier in the convoy. He maneuvered *Barb* so that he could fire at both the tanker and the escort carrier with the same salvo, firing all six bow tubes at the overlapping targets.

At 0034 on 17 September, the 11,700-ton tanker *Azusa Maru* was hit in the starboard side by two torpedoes, exploded and sank in 15 minutes with all hands. The 20,000-ton escort carrier *Unyo's* sound gear detected the inbound torpedoes and she attempted to evade, but it was too late. At 0037, one torpedo hit *Unyo* in the engine room, another in her steering compartment, and she was possibly hit in the stern by a third. *Barb* attempted to bring stern tubes to bear to finish the job, but one of the Japanese escorts drove her under.

Unyo's crew fought for hours to try to save her, and might have succeeded had it not been for the rapidly deteriorating sea conditions associated with an approaching typhoon. *Unyo* had survived multiple attacks by U.S. submarines, including being hit by three torpedoes (two exploded) from *Steelhead* (SS-280) on 10 July 1943, but not this time. By 0730, *Unyo* was listing badly and, at 0755, the captain gave the order to abandon ship and then chose to go down with her. *Unyo* suffered 26 of her crew killed, but 707 were rescued by the Japanese (there are discrepancies in how many passengers were aboard *Unyo*, with reports of between 200 and 800 lost, although 200 is probably more accurate).

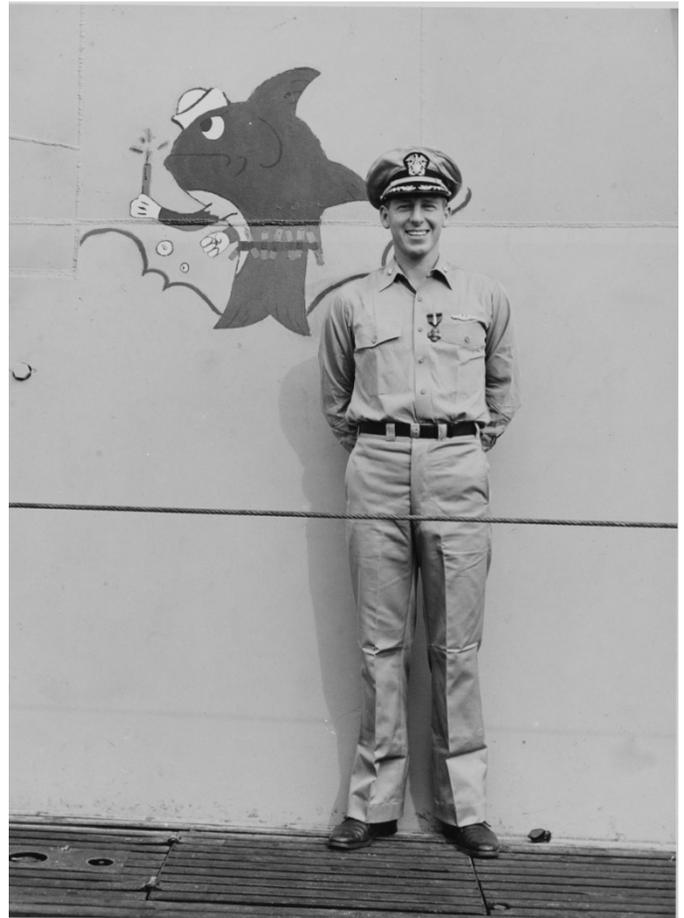
By the afternoon of 17 September 1944, *Barb* and *Queenfish* reached the scene of the demise of Japanese convoy HI-72 at the hands on Ben's Busters—*Sealion* (SS-315), *Pampanito* (SS-383), and *Growler* (SS-215). On 12 September 1944, *Sealion* had sunk *Rakuyo Maru*, not knowing that 1,317 British and Australian POWs were on board, while *Pampanito* sank *Kachidoki Maru*, which had 950 POWs on board. The Japanese actually rescued about 520 British POWs from *Kachidoki Maru*, but 431 perished (along with 53 Japanese), while 1,159 POWs aboard *Rakuyo Maru* were lost (350 of whom died when the lifeboats they were in were destroyed by gunfire from a Japanese ship). On 15 September, *Pampanito* passed through the scene of the attack, and discovered POWs clinging to wreckage. Ultimately,

Pampanito, *Sealion*, *Queenfish*, and *Barb* rescued a total of 149 Allied POWs (with *Barb* accounting for 14) before high seas and typhoon winds cut short the effort. (Of note, *Sealion* would sink the Japanese battleship *Kongo* and destroyer *Urakaze* on 21 November 1944). Fluckey was awarded his second Navy Cross for this patrol.

Tenth War Patrol

Barb's tenth war patrol was conducted in the heavily mined areas just south the Tsushima Strait between Korea and Kyushu from 27 October to 25 November 1944 as part of the wolfpack "Loughlin's Loopers, which included *Queenfish* and *Picuda* (SS-382). At 0245 on 10 November, *Barb*'s SJ radar detected the armed merchant cruiser *Gokoku Maru*. At 0334, *Barb* fired three Mark 18 electric torpedoes. One hit *Gokoku Maru* just aft of the funnel and a second hit just forward of the bridge. Despite taking on a 30-degree list and losing one engine room and all electrical power, Captain Mizuno was attempting to beach his ship when *Barb* fired another electric torpedo that circled and missed. Fluckey closed to within seven nautical miles of Kyushu and, at a range of 1,400 yards, fired another torpedo at 0410 that sank *Gokoku Maru* and 326 of her crew, including Captain Mizuno.

On 12 November, *Barb* sank the cargo-troop transport *Naruo Maru*, which blew up and sank immediately, killing 490 troops and 203 crewmen. *Barb* also hit 5,396-ton *Gyokuyo Maru*, which did not sink and was finished off while under tow on 14 November by *Spadefish* (SS-411). (Some analyses suggests that *Barb*, in fact, sank *Gyokuyo Maru*, but I'm not going to be able to sort it out.) Fluckey was awarded his third Navy Cross for this patrol.



Commander Eugene B. Fluckey, USN, commanding officer, USS Barb (SS-220) after receiving his third award of the Navy Cross from Commander, Submarine Force, Pacific Fleet, 6 December 1944. Note Barb's insignia painted on her fairwater, behind Commander Fluckey (NH 103534).

Eleventh War Patrol

For her eleventh war patrol, from 20 December 1944 to 15 February 1945, *Barb* teamed again with Loughlin's Loopers (*Queenfish* and *Picuda*). This time, her operating area was along the China Coast and Formosa Strait. At 1233 on 1 January, *Barb* came upon a Japanese picket/weather ship that had been attacked by the other two submarines with gunfire earlier in the day, but was still afloat and drifting. *Barb* came alongside, put a boarding party aboard, and took everything of potential intelligence value before sinking her with guns.

Aided by Ultra intelligence, commencing about 1830 8 January 1945 in the northern Formosa Strait, Loughlin's Loopers set upon Japanese

Convoy MOTA-30, consisting of nine cargo ships and tankers and four escorts transiting from Moji, Japan, to Takao, Formosa. By the next morning, the convoy and escorts were completely scattered and almost every cargo ship had been sunk, run aground, or badly damaged. In the melee, there are discrepancies as to exactly who shot whom. *Barb* fired three bow tubes at a large freighter and three bow tubes at a tanker, and heard four hits. The third hit caused a massive explosion that buffeted the submarine. Most accounts say these were *Shinyo Maru* and *Sanyo Maru* (however, *Shinyo Maru* had been sunk in 1943). Japanese records indicate *Barb* hit *Tatsuyo Maru*, which was loaded with munitions, blew up, and sank instantly with all 63 hands. The damaged *Sanyo Maru* subsequently ran aground and later broke apart and sank.

With her bow tubes empty, *Barb* was forced under by a charging escort while *Queenfish* and *Picuda* continued the attack. *Barb* then conducted a second and third attack, firing six torpedoes at a large passenger cargo ship, which "disintegrated in a pyrotechnic display like a gigantic phosphorous bomb." This was possibly *Anyo Maru*, which lost 138 crewmen and "many" troops, but in some accounts is credited to *Picuda*. The *Hikoshima Maru* dodged numerous torpedoes, probably some from *Barb*, before running aground (*Barb* got credit). *Barb* also apparently hit *Hisagawa Maru*, which survived the night, was attacked the next day by aircraft, and then broke apart and sank, going down with 2,117 Japanese army personnel, 84 navy gunners, and all 86 crewmen. Somewhere in this mix, *Barb* was credited with causing *Meiho Maru* to run aground, where it was bombed by aircraft. Thus, it is possible that *Barb* was responsible, or partially responsible, for sinking six Japanese ships (or forcing them to beach) in one night.

For the next couple of weeks, Loughlin's Loopers found no targets at night. Fluckey deduced that the Japanese had changed operating patterns and were anchoring in Chinese ports during the

night and hugging the Chinese coast during the day. A cautious reconnaissance in shallow and mined waters along the Chinese coast proved Fluckey right and, on the night of 22-23 January, he hit the jackpot. Fluckey estimated there were two 30 ships anchored in Namkwan harbor, on the coast of China. (It was actually 11 escorts, and 16 cargo/tankers and transports of two convoys, MOTA-32 and TAMO-38.) Fluckey reasoned that he would have the advantage of darkness and surprise on the way in to the harbor, but after the attack would need to run at maximum speed on the surface for over an hour in order to reach water deep enough to submerge. Fluckey opted to attack.

At 0402 on 23 January 1945, at a range of 3,000 yards *Barb* fired all six bow tubes at the mass of ships in Namkwan Harbor, then turned and fired all four stern tubes, as she commenced her getaway. Fluckey initially reported observing eight hits that sank three ships and damaged three others. One of the ships was the *Taikyo Maru*, which was carrying ammunition, resulting in a massive explosion that sank the ship that killed 360 troops, 26 gunners, and 56 crewmen. *Barb* ran at over 21 knots on the surface for one hour and 19 minutes through shallow, poorly charted, and mined water to escape. Fortunately, in the chaos of the attack, the Japanese mounted no effective response.

Japanese records of this attack disappeared at some point, and the post-war Joint Army-Navy Assessment Committee (JANAC) only gave *Barb* credit for sinking *Taikyo Maru*. However, coast-watcher reports from Naval Group China (more on them in a future H-gram) and recollections of Chinese witnesses indicate that four ships were sunk (two of them large) and three damaged, which would make Fluckey's final claim of three ships sunk, one probably sunk, and three damaged, on the mark.

Commander Eugene B. Fluckey was awarded a Medal of Honor for this patrol. The citation reads as follows:

“For conspicuous gallantry and intrepidity at the risk of his life above and beyond the call of duty as commanding officer of USS BARB during her Eleventh War Patrol” along the east coast of China from 19 December 1945, to 15 February 1945. After sinking a large ammunition ship and damaging additional tonnage during a 2-hour night battle on 8 January, Commander Fluckey, in an exceptional feat of brilliant deduction and bold tracking on 23 January, located a concentration of more than 30 enemy ships in the lower reaches of Nankuan Chiang (Mamkwan Harbor). Fully aware that a safe retirement would necessitate an hours’ run at full speed through the uncharted, mined and rock-obstructed waters, he bravely ordered, ‘Battle Station–Torpedoes!’ In a daring penetration of the heavy enemy screen, and riding in 5 fathoms of water, he launched the BARB’s last forward torpedoes at 3,000 yards range. Quickly bringing the ship’s stern tubes to bear, he turned loose four more torpedoes into the enemy, obtaining eight direct hits on six of the main targets to explode a large ammunition ship and causing inestimable damage by the result of flying shells and other pyrotechnics. Clearing the treacherous area at high speed, he brought the BARB through to safety and 4 days later sank a large Japanese freighter to complete a record of heroic combat achievement, reflecting the highest credit upon Commander Fluckey, his gallant officers and men, and the United States Naval Service.”

After receiving his Medal of Honor, Fluckey gave a signed card to each member of the crew that read as follows:

As Captain it has been an outstanding honor to be your representative in accepting the Congressional Medal of Honor for the extraordinary heroism above and beyond the call of duty which you and every officer and man in the BARB displayed. How fortunate I am, how proud I am, that the President of the United States should permit me to be the caretaker of this most distinguished honor which the Nation has seen fit to bestow upon a gallant crew and a fighting ship...the “BARB.”

Sincerely,

Eugene Fluckey

Barb was awarded a Presidential Unit Citation for her eighth, ninth, tenth, and eleventh war patrols.

Twelfth War Patrol

Following a major overhaul at Mare Island that included the installation of a 5-inch rocket launcher at Fluckey’s request, *Barb* conducted her twelfth war patrol between 8 June and 2 August 1945, returning again to the Sea of Okhotsk and reaching her assigned area on 21 June. There, she sank two small sailing ships with gunfire. On 22 June, *Barb* surfaced one mile off the town of Shari, Hokkaido, and fired a barrage of 12 rockets at factories in the town center. These caused damage but no fires. *Barb* thus became the first submarine to employ rockets against a shore installation, in this case, successfully (*Barb* was also the only submarine to fire rockets in World War II.) The Japanese thought they were under air attack, and *Barb* escaped to safety. The next day, *Barb* sank a trawler and took a Japanese prisoner.

The following actions took place on or around Sakhalin Island, now part of Russia. (After the 1905 Russo-Japanese War, the island of Sakhalin was divided between Russia—the northern half—

and Japan—the southern half. In August 1945, at the very end of World War II, the Soviet Union declared war on Japan, invading Japanese-occupied Manchuria and capturing southern Sakhalin and the Kuril Islands.)

On 2 July 1945, *Barb* surfaced 1,100 yards off Kaihyo To Island (just off Sakhalin) and destroyed a radar station, radio station, buildings, boats, and supplies with gunfire. An attempt to put a landing party ashore was aborted when four pillboxes were observed overlooking the harbor. On 3 July, *Barb* fired rockets at Shikuka air base on Sakhalin; 12 rockets exploded in a concentration of buildings. *Barb* also sank an unknown probable army cargo ship; although she wasn't given official credit, the evidence looks pretty solid. *Barb* sank two more cargo ships on 5 and 10 July, and, on 18 July, sank coastal defense vessel 112 (a small 940-ton frigate).

On 19 July 1945, Fluckey observed a train travelling on tracks along the Sakhalin coast and hatched one of the most daring operations in the annals of U.S. submarine warfare. For three nights, Fluckey observed the trains in order to determine the schedule. On the night of 22-23 July, a landing party of eight volunteers went ashore to plant explosives on the train tracks. The landing party had difficulty making its way across the terrain, and had to hide in the bushes as the first train passed only a few feet away before the 55-pound charge could be set. As the landing party was paddling back to *Barb*, the next train came by, detonating the explosives. Pieces of the locomotive flew 200 feet into the air, and 12 freight cars, 2 passenger cars, and a mail car derailed and piled into a twisted mass. Japanese propaganda claimed that civilian passengers were killed, but intelligence indicated that trains traveling at night carried troops. This is claimed as the only ground combat on the Japanese Home Islands during World War II, and though Sakhalin is not now a Japanese island, in 1945, technically it was a "Home Island."

On 24 July 1945, *Barb* conducted three rocket attacks on a factory at Shiratori, Sakhalin Island. This was followed on 25 July by a shore bombardment of a cannery at Chiri, Sakhalin. Also on 25 July, *Barb* conducted her last rocket attack, on factories at Kashiho, Sakhalin. On 26 July, *Barb* bombarded Shibetoro on the island of Kunishiro (the southernmost in the Kuril Islands), destroying a lumber mill and sampan-building yard. She then set a trawler on fire and rammed it to finally sink it, while capturing three more Japanese prisoners. *Barb* arrived at Midway on 2 August 1945 and was there when the war ended.

Fluckey was awarded his fourth Navy Cross, and *Barb* received a Navy Unit Commendation for her twelfth war patrol. Fluckey was particularly proud of the fact that no member of *Barb*'s crew received a Purple Heart during the war.

Sources include: Thunder Below! The USS *Barb* Revolutionizes Submarine Warfare in World War II, by RADM Eugene B. Fluckey, University of Illinois Press, Champaign, IL, 1992; NHHC Dictionary of American Fighting Ships (DANFS) at history.navy.mil; and, for Japanese ships, combinedfleet.com.



Battle flag of USS Blackfin (SS-322), 1945 (NHHC 1994-142-A).

H-041-3: SS *Blackfin* (SS-322) Sinks Japanese Destroyer *Shigure*, 24 January 1945

H-Gram 041, *Attachment 3*
Samuel J. Cox, Director NHHC
February 2020

The first war patrol of the new submarine USS *Blackfin* (SS-322), under the command of Commander G. H. Laird, Jr., had been frustrating. Operating in the vicinity of the Philippines, she succeeded in sinking one ship, the 2,745-

ton *Unakai Maru No. 12*, and then stalked another ship that was then positively identified as a Japanese hospital ship and was not attacked. Toward the end of the patrol, *Blackfin* was ordered to rendezvous with a U.S. Army unit off the coast of Mindoro to take aboard current Japanese ciphers and codebooks recovered from a captured small Japanese patrol boat. After delivering the valuable intelligence material to an Australian corvette (HMAS *Kiama*), *Blackfin* arrived in Fremantle, Australia, where the skipper fell ill and was relieved by Lieutenant Commander William L. Kitch.

On 24 January 1945, on her second War Patrol, *Blackfin* was operating in the South China Sea, east of Khota Baru, Malaysia, as part of a

submarine wolfpack under the overall command of Commander Thomas Wogan, embarked on USS *Besugo* (SS-321). Other submarines in the wolfpack were USS *Hardhead* (SS-365) and USS *Cobia* (SS-245). Tipped off by Ultra intelligence, the wolfpack was awaiting the passage of Japanese Convoy HI 87A from Hong Long to Singapore via Yulin, China. It consisted of the 10,000-ton tanker *Sarawak Maru*, escorted by the destroyer *Shigure* and three smaller escorts, *Kanju*, *Miyake* and *Kaibokan 13*.

At 0502 24 January, *Blackfin* gained SJ radar contact on the convoy at a range of 20,000 yards, and at 0515 issued a contact report to *Besugo* and *Hardhead*, which began to close the contact. *Blackfin* commenced a pre-dawn surface attack. At 0609, the submarine fired three bow torpedoes at the tanker *Sarawak Maru* at a range of 1,500 yards. The first torpedo was believed to have hit the tanker when, at 0610, one of the escorts was sighted dead ahead. Kitch quickly shifted targets and fired two torpedoes at the contact. The first torpedo hit the destroyer just abaft the bridge, quickly enveloping the target in a cloud of white smoke. At the same time, a second explosion was heard, which Kitch assessed as another of the first three torpedoes hitting the tanker.

As the destroyer began to sink, Kitch turned and fired three torpedoes from his stern tubes at the tanker, one of which was believed to hit. One of the other escorts then opened fire with guns on *Blackfin* and, at 0711, Kitch took her down. According to Japanese records none of *Blackfin's* torpedoes fired at the tanker actually hit, and may have detonated prematurely or in the tankers wake. However, the torpedo that hit the destroyer was fatal, bringing an end to *Shigure*, one of the most legendary ships in the Imperial Japanese Navy.



Imperial Japanese Navy destroyer *Shigure*, circa July 1939. Ship's name appears in katakana characters along sides amidships.

Shigure ("Autumn Shower," although some accounts translate it as "Drizzle,") had a reputation as a "lucky" or "unsinkable" ship, the veteran of many ferocious battles and sole survivor of two. *Shigure* participated in the Battle of the Coral Sea in May 1942, then in the Aleutians operation as part of the Battle of Midway. In November 1942, *Shigure* served in a distant cover role in the Friday the 13th Battle off Guadalcanal, and so missed the worst of the battle, but she did rescue survivors of the crippled Japanese battleship *Hiei*, which was bombed and sunk the next day. *Shigure* then survived eight "Tokyo Express" runs to Guadalcanal, which cost the Japanese multiple other destroyers.

In mid-1943, *Shigure* became the flagship of Captain Tameichi Hara, commander of Destroyer Division 27. Before the war, Hara had authored the Imperial Japanese Navy manual on torpedo attacks, which became official doctrine. He was the only skipper of a Japanese destroyer (*Amatsukaze*) at the start of the war to survive the entire war, including the sinking of the light cruiser *Yahagi*, which he commanded as part of the battleship Yamato's suicide attack at Okinawa in April 1945. After the war, Hara authored the book, *Japanese Destroyer Captain*, which for many years was one of the few English translations of the Japanese side of the war (and was one of the first books I read as a kid after *Clifford the Big Red Dog*).

In July 1943, *Shigure* was the sole survivor of four Japanese destroyers in the Battle of Vella Gulf, after which it was discovered that she had been hit by a U.S. torpedo that failed to explode. She was then in the Japanese formation when *Amagiri* rammed and sank future U.S. President John F.

Kennedy's *PT-109*. In October 1943, *Shigure's* torpedoes contributed to the severe damage of the destroyer *Selfridge* (DD-357) during the Battle of Vella LaVella. In November 1943, she survived the Japanese defeat in the Battle of Empress Augusta Bay, as well as the major U.S. carrier air raid on the Japanese base at Rabual, and she rescued 70 survivors of the transport *Toyko Maru*.

In January 1944, *Shigure* took her first serious damage when a bomb hit her Number 2 turret, killing 21, during the two days of U.S. carrier air strikes on Truk. Although damaged, *Shigure* was one of the few ships to survive. In June 1944, *Shigure* participated in Operation Kon, an attempt to disrupt the Allied landings at Biak, New Guinea, where she took two shell hits from U.S. cruisers, which killed seven, but she also rescued 110 survivors of the Japanese destroyer *Hurusame*. Later that month, *Shigure* rescued survivors of the aircraft carrier *Hiyo*, sunk during the Battle of the Philippine Sea.

During the Battle of Leyte Gulf, *Shigure* was hit by a bomb on 24 October 1944 that caused minor damage and killed five. She was then badly battered on the night of 24-25 October, but was the only ship of Vice Admiral Nishimura's "Southern Force" to survive the Battle of Surigao Strait (two Japanese battleships, one heavy cruiser, and three other destroyers were lost, almost all with virtually their entire crews).

On 8 November 1944, *Shigure* was possibly responsible for sinking the U.S. submarine *Growler* (SS-215) off Mindoro. (*Growler* had previously been the command of Howard Gilmore, who was posthumously awarded a Medal of Honor after he gave the order to "take her down" while he was still gravely wounded on the bridge during a Japanese air attack). In December 1944, *Shigure* was escorting the new Japanese aircraft carrier *Unryu* when the carrier was torpedoed. *Shigure* rescued 145 survivors, but suffered a mechanical casualty and returned to Japan while the other two escorts proceeded

to the Philippines, where they were sunk, making *Shigure* arguably the "sole survivor" of a third action.

The torpedo from *Blackfin* ended *Shigure's* incredible run of good fortune. Although she did not prove to be "unsinkable," she was still comparatively "lucky." Numerous Japanese destroyers were lost with all hands or most of their crews during the war. *Shigure* sank slowly enough that the Japanese rescued 270 survivors and only 37 crew members were lost.

The battle for Convoy HI 87A didn't end there though. Shortly after *Blackfin's* attacks, *Besugo* commenced her attack. The remaining Japanese escorts at first drove off *Besugo* with gunfire and depth charges, but "she persisted" and, 20 minutes later *Besugo* fired six torpedoes at the tanker *Sarawak Maru*. At least one of these hit, causing damage, but failing to sink her. *Besugo* then survived 22 depth charges from the Japanese escorts and, then later in the afternoon, she survived 32 more depth charges. *Sarawak Maru* made it to Singapore and was repaired, but as she was departing on 19 March, she hit a mine that had been laid by a U.S. Army Air Forces B-29. She was beached, but burned, rolled over, and then sank.

Blackfin conducted three more war patrols without sinking anything. Later in her career, she was in the 1963 screwball comedy *Move Over, Darling* starring Doris Day, James Garner, and Polly Bergen (not sure what *Blackfin* did in the movie), but in 1968 she had a prominent role in *Ice Station Zebra*, starring Rock Hudson.

On *Besugo's* next patrol, she sank the German submarine *U-193* in the Java Sea on 23 April 1945. *U-193* was one of several German submarines known as the "Monsun Gruppe" that operated from Japanese-occupied Penang, Malaysia, mostly in the Indian Ocean. *U-193* was sunk only a couple of weeks before Germany's surrender.

Both Lieutenant Commander Kitch and Commander Wogan were awarded Silver Stars for the action against the *Sarawak Maru* convoy (it was Wogan's second of three Silver Stars to go with a previous Navy Cross). Kitch's award citation reads:

The President of the United States of America takes pleasure in presenting the Silver Star to Commander (then Lieutenant Commander) William Kitch, United States Navy, for conspicuous gallantry as Commanding Officer of USS BLACKFIN (SS-322) in action against enemy Japanese forces during the SECOND War Patrol of the Submarine in the South China Sea, from 2 January to 15 February 1945. Demonstrating outstanding ability, Commander Kitch attacked and sank a 1,500 ton Japanese destroyer and damaged a 10,000-ton tanker. His initiative, courage and devotion to duty in the face of grave hazards were in keeping with the highest traditions of the U.S. Naval Service.

Sources include NHHHC's Dictionary of American Fighting Ships (DANFS) for U.S. ships, combinedfleet.com for Japanese ships, and Military Times Hall of Valor for award citations.

H-041-4: USS *Batfish* (SS-310) Sinks Three Japanese Submarines, February 1945

H-Gram 041, Attachment 4
Samuel J. Cox, Director NHHC
February 2020

USS *Batfish* (SS-310) completed seven war patrols, and was credited with sinking nine ships totaling 10,658 tons. On her first war patrol, she missed a shot at the Japanese super-battleship *Yamato* on 14 January 1944, when her first skipper cautiously opted to submerge rather than use the heavy seas as cover for a night attack and *YAMATO* pulled out of range. Her second war patrol was a bust.

In May 1944, Lieutenant Commander John K. Fyfe assumed command of *Batfish*. On her third war patrol, *Batfish* narrowly avoided being sunk when she crash-dived in waters off Honshu, Japan, charted at 400 feet only to hit a submerged volcanic peak at 240 feet. She was stuck for eight hours enduring 50 depth charges. Despite damage, *Batfish* continued the patrol, survived two more concerted attacks by the Japanese, and sank a trawler and a small escort as she was returning to Midway.

On her fourth war patrol, *Batfish* sighted the destroyer *Samidare*, which had run aground on Velasco Reef near Palau on 18 August 1944, along with a transport and a minesweeper (minesweeper No. 22) also aground on the reef. A variety of small craft and escorts were attempting to get *Samidare* off the reef, albeit unsuccessfully. After a first attempt to hit the transport was thwarted by heavy seas, *Batfish* tried again on 23



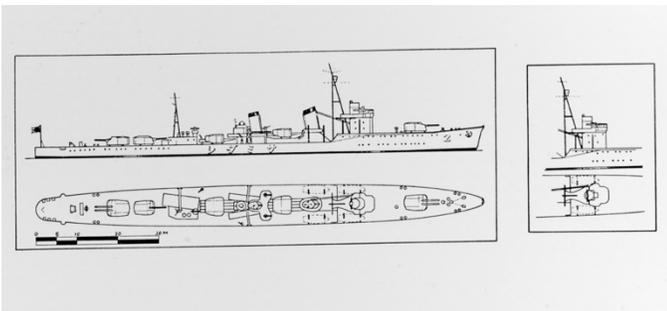
A USS *Batfish* (SS-310) crewman prepares Japanese trophy flags for display as the ship returns to her base at the end of a war patrol, May 1945 (80-G-468672).

August, firing three torpedoes at the minesweeper, which blew apart. On 26 August, *Batfish* returned and hit *Samidare* with two torpedoes, making further attempts at salvage fruitless. *Samidare* broke in two and her stern section sank. *Batfish* observed as the Japanese destroyed *Samidare*'s forward section with demolition charges.

Although not as famous as the "lucky" *Shigure*, *Samidare* had an extraordinary battle record. She participated in the battles of Java Sea, Midway, Eastern Solomons, and Santa Cruz. In the Friday the 13th Battle off Guadalcanal (November 1942), *Samidare* assisted in sinking the destroyer *Monssen* (DD-436) and lightly damaging the light cruiser *Helena* (CL-50) before rescuing 207 survivors of the destroyer *Yudachi*. Two nights later, her torpedoes contributed to sinking the destroyers *Benham* (DD-397), *Walke* (DD-416), *Preston* (DD-379), and damaging *Gwin* (DD-433) before rescuing survivors of the battleship

Kirishima. She then participated in the Japanese evacuation from Kiska, in the Aleutians, before returning to the Central Solomons for the Battle of Vella LaVella, where she torpedoed and severely damaged destroyer *Selfridge* (DD-357). At the Battle of Empress Augusta Bay, one of *Samidare's* torpedoes badly damaged destroyer *Foote* (DD-511). *Samidare* then participated in the Battle of the Philippine Sea in June 1944 before her rendezvous with the reef and *Batfish*.

Batfish's fifth war patrol was interrupted when her periscope jammed in the fully raised position. After resuming patrol, *Batfish* was mostly frustrated until 19 October, when she attacked a tanker. A full salvo of six torpedoes either missed or failed to detonate. *Batfish* fired another torpedo set at very shallow depth with still no result. As *Batfish* closed for a night surface gunfire attack, the tanker turned and attacked, as it turned out the "tanker" was a heavily armed "Q-ship" that fired on *Batfish* with guns and then dropped depth charges, which *Batfish* had to go below test depth to survive. On 4 November 1944, *Batfish* intercepted a 13-ship convoy that included a damaged heavy cruiser. As *Batfish* came to periscope depth in attack position on the heavy cruiser, she was nearly run down by a Japanese destroyer and had to emergency dive to avoid collision. Her subsequent attack against the receding convoy was unsuccessful.



Imperial Japanese Navy destroyer *Samidare*: Pre-war outboard profile line drawing (NH 86302).

Sixth War Patrol

Batfish departed Guam on 10 January 1945 for a patrol area in the South China Sea in the Gulf of Tonkin, where her frustration continued, as torpedo attacks were thwarted by bad weather, torpedoes that passed under the target, and a general paucity of targets. On 2 February, *Batfish* was ordered to change patrol areas to the vicinity of Babuyan and Calayan Islands, just north of Luzon.

By late January of 1945, due to Japanese *kamikaze* attacks (which by definition resulted in the loss of the aircraft) as well as destruction of Japanese aircraft on the ground due to continuing U.S. carrier airstrikes, the Japanese had many more pilots than aircraft in the Philippines. As there was still a relatively ample number of new aircraft coming off the factory lines in Japan, and trained pilots were the long pole in the tent, the Japanese decided to extract as many pilots from the Philippines as possible before the Philippines fell.

On 31 January, Japanese Destroyer Division 43 (*Ume*, *Kaede*, and *Shiokaze*) departed Takao, Formosa, bound for the Aparri area of Luzon (where there were Japanese airfields) with a mission to evacuate Japanese pilots. At 1520, the three destroyers were attacked by U.S. Army Air Force B-25 medium bombers and P-38 long-range fighters. *Ume* was crippled by three direct bomb hits and the other two destroyers were damaged. *Ume* subsequently sank at 1810 with a loss of 77 crewmen. The Japanese aborted the surface evacuation mission, and decided to try to accomplish the evacuation via submarine. U.S. Ultra intelligence detected this plan immediately, which was why *Batfish* was sent to the area off northern Luzon. On 3 February, *Batfish* received additional guidance that the target was Japanese submarines engaged in an evacuation effort.

On 4 February 1945, Vice Admiral Shigeyoshi Miwa, Commander of Japanese Sixth Fleet (submarines), issued orders to submarines RO-

115, RO-46, RO-112, and RO-113 to terminate their patrols and proceed to Takeo Formosa, where they were to offload deck-gun ammunition and reserve torpedoes in order prepare for the evacuation mission to retrieve stranded pilots from the Aparri area on Luzon. RO-46 would be the only one to complete her mission, picking up 46 airmen on 10 February 1945. (RO-46 would later be sunk on 2 May 1945 off Okinawa by USS *Tulagi*—CVE-72—aircraft.)

On 7 February, both RO-112 and RO-113 arrived at Takao to commence offload and preparations, and RO-46 departed. RO-115 never acknowledged the order to return to Takao (and never returned). The same day, RO-55 (not part of the evacuation operation) arrived at Aparri to offload ammunition. With no response from RO-115, it is possible that Miwa ordered RO-55 to substitute for RO-115 and pick up Japanese aircrewmembers at Aparri. (Some accounts state that RO-55 was sunk on 31 January/1 February, but, according to Ultra, she communicated an up-echelon report on 2 February 1945, which would indicate she had not been sunk.)

At 2250 (2350 Tokyo time) on 9 February 1945, *Batfish* gained SJ radar contact at 11,000 yards on a target on course 310 degrees (i.e., heading away from Aparri toward Formosa). By 2331, *Batfish* had closed on the target and fired four torpedoes, all of which missed, and the submarine heard four end-of-run detonations. At 0001 on 10 February, *Batfish* had closed to 1,020 yards, and identified the contact as a Japanese "I-class" submarine on the surface (RO submarines are significantly smaller than I-boats, but in the dark this was an easy mistake). A minute later, *Batfish* fired four torpedoes. The first ran hot in the tube, the second hit the target, the third went through the brilliant red explosion that "lit up the whole sky," while the fourth missed and detonated at the end of its run. *Batfish* heard distinct breaking-up sounds, so this was almost certainly a kill on a submarine.

Exactly which submarine was *Batfish*'s first kill has been the subject of many years of debate, with RO-115 usually considered as the most likely candidate, and with I-41 sometimes offered as a candidate. However, after extensive discussion with Anthony Tully of combined fleet.com, who has an unpublished book on the subject, I'm pretty well convinced that RO-55 makes the most sense. (USS *Laurence C. Taylor*—DE-415—was given credit for sinking I-41 with a hedgehog attack on 18 November 1944 east of Samar. It would have been highly unusual for RO-115 or any Japanese submarine not to acknowledge orders, or to ignore the orders to proceed to Takao before conducting the mission. There are several claimed submarine sinkings in the Philippines in December 1944 and January 1945 for which definitive proof of which submarine was sunk where is still unresolved, and it is possible that RO-115 was one of them). An intercept by Fleet Radio Unit Melbourne (FRUMEL) on 16 February 1944 confirmed that RO-112 and RO-113 had departed Takao on 9 and 10 February, but RO-115 had not returned as of then.

RO-112 departed Takao, Formosa on 9 February en route Batulinao, Luzon (near Aparri). At 1951 on 11 February, *Batfish* gained SJ radar contact at 8,000 yards, about the same time that the AN/APR-1 radar detector detected the Japanese submarine radar (with which many Japanese subs had been equipped by this time). At 2037, *Batfish* gained visual contact on a surfaced submarine at 1,300 yards on course 120–140 degrees, but the contact was lost when the submarine submerged. At 2105, *Batfish*'s sonar reported the submarine blowing tanks and, at 2106, the submarine surfaced. *Batfish* regained radar contact and detection of the submarine's radar at a range of 8,650 yards. Over the next hour, *Batfish* closed the range and, at 2150, submerged to radar depth. At 2202 and at a range of 800 yards, *Batfish* fired four Mark 18 electric torpedoes from her bow tubes. The first torpedo hit, causing the Japanese submarine to blow apart and sink almost immediately.

On 12 February, RO-112 failed to arrive at its intended destination and was subsequently presumed lost with all 61 hands. (RO-112 had nearly been hit previously by *Rasher* [SS-269] one of the most successful boats of the war, on 19 February 1944. In May 1944, RO-112 had received warning derived from Japanese radio intelligence about USS *England's* [DE-635] operations along the Japanese scouting line, and RO-112 had the good sense to change position before becoming one of the six submarines sunk by *England*.)

RO-113 departed Takao on 10 February 1945 en route Batulinao, Luzon. At 0215 on 13 February, *Batfish* gained SJ radar contact on a target at a range of 10,700 yards, on a southeasterly course between Calayan and Daupin Islands (i.e., on track from Formosa to Batulinao, Luzon). At 0241, the contact submerged, but resurfaced at 0310, and *Batfish* regained radar and APR contact at 9,800 yards. At 0412, *Batfish* submerged to radar depth. When the range reached 1,500 yards, *Batfish* fired three torpedoes from her stern tubes at 0448. At 0449, the first torpedo hit the submarine, sinking it so fast the other two torpedoes missed. On 14 February, RO-113 failed to arrive at Batulino, and was subsequently presumed lost with all 59 hands. (Of note, on 6 November 1944, RO-113 torpedoed and sank the British motor vessel *Marion Moller* in the Bay of Bengal, the last Allied ship to be sunk by a submarine in the Indian Ocean.)

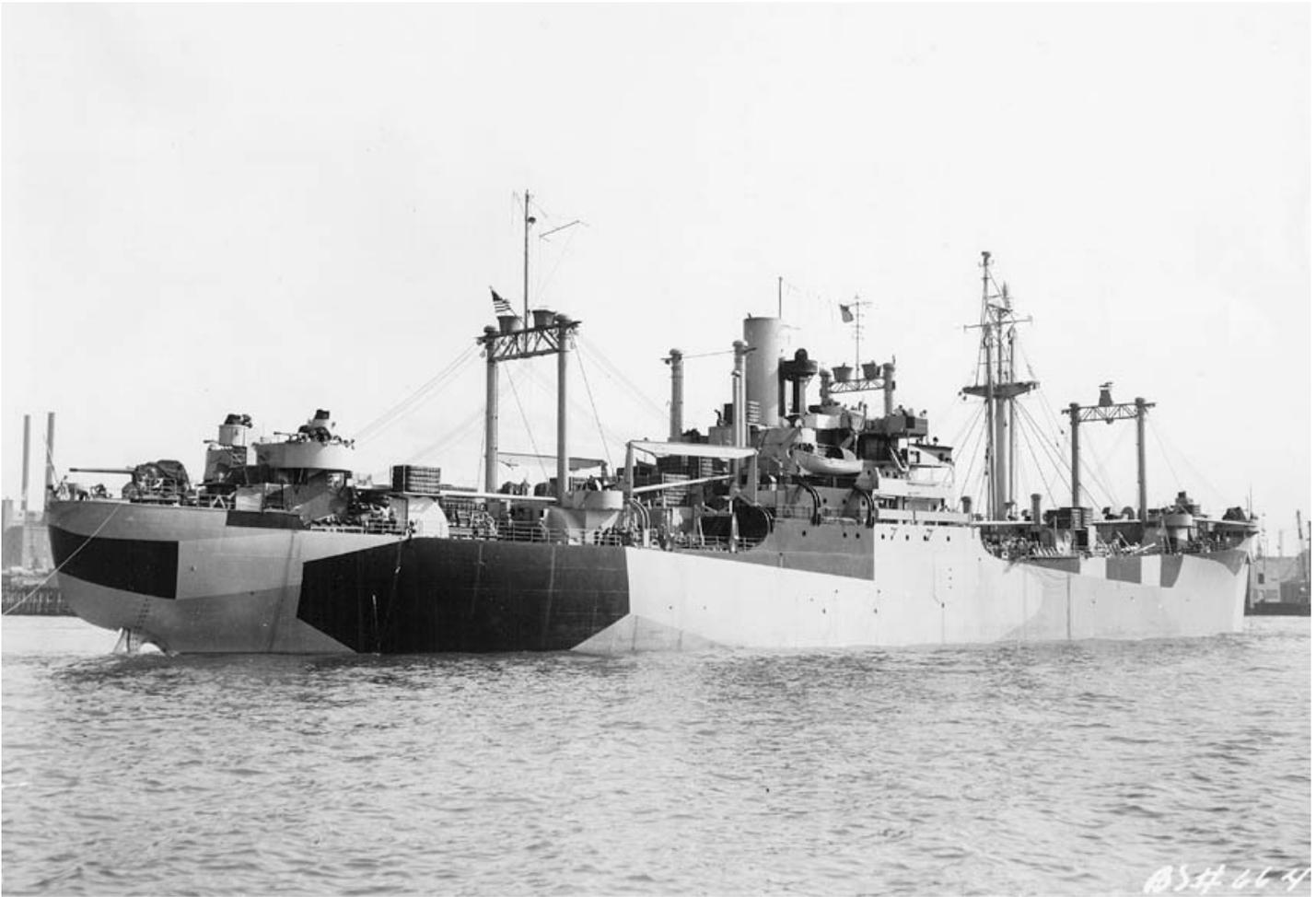
Batfish was awarded a Presidential Unit Citation for her sixth war patrol, and is now a museum ship in Muskogee, Oklahoma (and getting her to Oklahoma is a story in itself.) Commander John K. Fyfe (USNA '36) was awarded a Navy Cross:

...for extraordinary heroism and distinguished service in the line of his profession as Commanding Officer of USS BATFISH (SS-310) on the SIXTH War Patrol of that submarine during the period 30 December 1944 to 3 March 1945, in

enemy controlled waters in the South China Sea south of Hong Kong, east of Hainan and in the Luzon Straits. Utilizing an important discovery concerning Japanese air search radar, Commander Fyfe expertly sought out and sank three large I-class enemy submarines in a period of four days. In addition to his success in sinking these valuable enemy combatant units, he delivered a smashing gun attack which left an enemy landing barge floundering in the heavy seas in a mortally wounded condition. By his skillful evasive tactics, Commander Fyfe avoided determined enemy countermeasures. His gallant fighting spirit and unwavering devotion to duty were in keeping with the highest traditions of the United States Naval Service.

Fyfe was also awarded four Silver Stars during the war and retired as a rear admiral in 1957.

My great appreciation to Anthony Tully of combinedfleet.com for a very extensive "above and beyond" effort to try to help me untangle the conflicting reports of Japanese submarine losses during this period—and if I didn't get it right, it's my fault. Other sources include NHHHC Dictionary of American Fighting Ships (DANFS), which probably doesn't have it quite right either (nor does Samuel Eliot Morison for that matter), and combinedfleet.com for Japanese ships.



USS Starlight (AP-175) in May 1944. In 1969, she was the States Marine Lines' cargo carrier SS Badger State, transporting military supplies to Vietnam (National Archives 19-N-66453).

H-041-5: The Ordeal of SS *Badger State*, December 1969

H-Gram 041, [Attachment 5](#)
Samuel J. Cox, Director NHHC
February 2020

The cargo ship SS *Starlight* was acquired by the War Shipping Administration as she was nearing completion in 1943. She was converted to an auxiliary personnel transport and commissioned into the U.S. Navy on 15 February 1944 as USS *Starlight* (AP-175). During the war, *Starlight* landed assault troops at Guam on 21 July 1944, at Leyte on 20 October 1944, and again on 18 November. She survived three days

of kamikaze attacks at Lingayen Gulf, Philippines, in early January 1945 and then at Okinawa on 11 April 1945. During these operations, *Starlight* was credited with shooting down a total of six Japanese aircraft. After the war, she transported U.S. Marines to Tientsin, China, on 9 February 1945 upon resumption of the civil war between Chinese Communists and the Nationalist Government of Chiang Kai-shek. She was decommissioned and sold in 1948, and sailed for 20 years as a commercial cargo vessel under the name SS *Badger State*.

In 1960, *Badger State* was bought by States Marine Lines and, in 1969, she was contracted by the Military Sea Transportation Service to ship ammunition to Vietnam in support of the U.S. war effort. Under Master Charles T. Wilson, *Badger State* got underway from the Naval Weapons

Station, Bangor, Washington, late on 14 December 1969, destined for Da Nang, Republic of Vietnam, with a crew of 40 and cargo that included 8,900 500-, 750-, and 2,000-pound bombs. The ammunition had been loaded in a rainstorm that soaked the wood packing intended to hold the bombs in place. In addition, soon after she departed, leaking hydraulic fluid from her steering gear adversely affected the operation of her rudder.

Badger State encountered very heavy weather as she transited about 550 nautical miles north of Midway Island. Taking heavy rolls as much as 40 degrees, it became apparent to the crew that the bands used to secure the bombs were inadequate and there was great risk that the bombs would break free and start rolling around in the holds. Captain Wilson attempted to keep the ship on course to minimize rolls, while the crew used anything they could find, such as mattresses and excess life jackets, to try to keep the bombs in place. It was a losing battle as the severe weather and 20-foot seas continued to pound the ship.

On 17 December 1969, some of the bands began to give way. At great risk, the crew continued to try to minimize the movement of the bombs, but eventually some rolling bombs punched holes in the side of the ship and she began slowly taking on water. In addition, bombs hitting each other were causing sparks. By 25 December, weather conditions had dramatically worsened with hurricane force winds and rolls up to 52 degrees. Captain Wilson issued a distress call when informed that the 2,000-pound bombs were breaking free.

At about 0830 26 December, one of the bombs in cargo hold Number 5 detonated. Although the explosion was low order, it blew a 12-by-8-foot hole in the starboard side above the waterline, blew off the hatch cover, and started fires on the stern. Although the seas were still 25 feet and winds over 40 knots, with the risk of additional

explosions, Captain Wilson gave the order to abandon ship. The Greek freighter *Khian Star* had responded to the distress call and was by then nearby.

As the already exhausted crew commenced abandon-ship procedures, the high winds carried away two life rafts. The port lifeboat was unusable due to damage from the storm. Captain Wilson and four volunteers remained aboard the ship, while the rest of the crew (35) jammed in the one serviceable lifeboat to starboard. Upon reaching the water, the sea painter failed and the lifeboat drifted aft until it was under the hole caused by the explosion. There were fires in the hold and bombs rolling loose. The wind and sea slammed the lifeboat into the side of the ship repeatedly. At that moment, bombs began rolling out of the hole. The first just missed the lifeboat, but the second hit, causing it to capsize and the occupants to spill into the water. Wilson was unaware that the lifeboat had capsized, although one of the crewmen still on board threw life rings to men in the water.

With the threat of additional explosions, Captain Wilson and the other four crewmen went over the port side, with life rings over their life preservers, and attempted to swim to *Khian Star*, but only three of them made it, including Wilson. In the meantime, *Khian Star* had come alongside the capsized lifeboat, where some men were still clinging, and attempted to bring men aboard with Jacobs ladder, net slings and lines. Over the next several hours, *Khian Star* was able to rescue 14 men from the 48-degree water, but many were washed away even as they tried to climb ropes to the freighter and, to make matters worse, albatrosses even attacked some of the men in the water (although no serious injuries were incurred as a result). One *Khian Star* crewman dove in the water with a line attached to rescue one of the *Badger State's* crewmen, who, however, was already dead. At this point, a U.S. Air Force rescue aircraft flew over and dropped six rafts, which

immediately blew away. Ultimately, 26 men were lost.

By the morning of 27 December, the fires continued to spread, additional ammunition and bombs began to explode, and munitions in the forward holds had broken free. Over the next ten days, *Badger State* remained afloat and on fire, suffering numerous additional explosions. Consideration was given to attempting to tow and salvage the ship, but ultimately the danger was too great and the fleet ocean tug USS *Abnaki* (ATF-96) was ordered to sink *Badger State* with gunfire. However, before *Abnaki* opened fire, *Badger State* broke in two and sank on 5 January 1970. (Of note, *Abnaki* had towed the German submarine U-505 into Bermuda after it had been captured by the USS *Guadalcanal* [CVE-60] hunter-killer group [TG 22.3], commanded by Captain [later Rear Admiral] Daniel V. Gallery, in June 1944.)

Sources vary on how many men were in the lifeboat and how many were in the volunteer party that stayed aboard, and even temperature of the water. Wilson's initial radio report differs from other accounts. In a number of sources, the math doesn't add up. Where there are discrepancies, I used the U.S. Coast Guard Inquiry Report). In the end, 14 were saved and 26 were lost.

Khian Star would be awarded a Merchant Marine "Gallant Ship Award" by the U.S. Secretary of Transportation for her prompt reaction and extensive effort to rescue survivors.

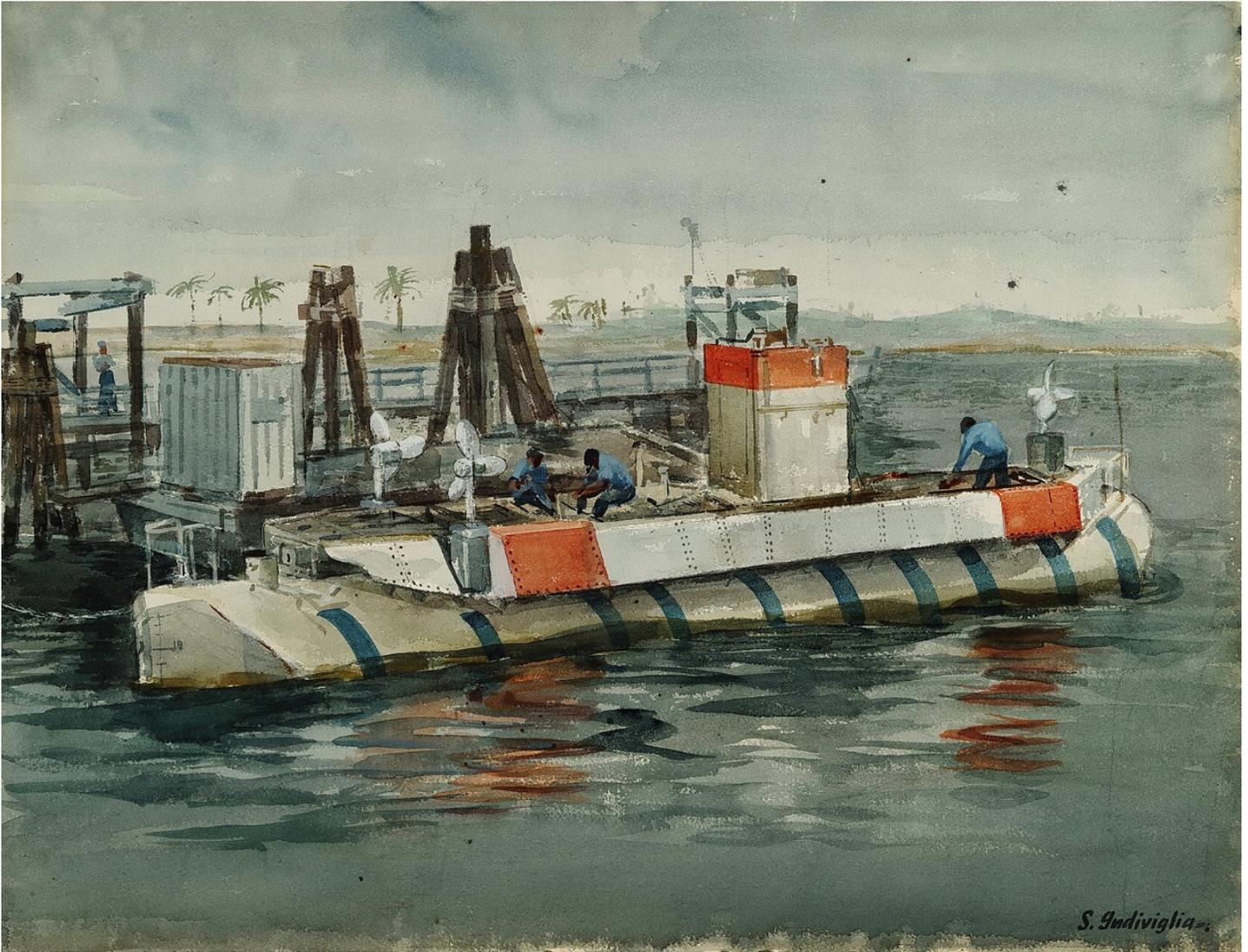
The subsequent investigation identified numerous procedures and equipment that could be improved, particularly in the realm of loading and packing ammunition for transport. However, there were no violations of the standard operating procedures that were in effect at the time, and no instances of negligence. This was a rare case where the master and crew did everything right, as best they could, and still lost the ship (and the master was not found at fault). The investigation

did note that, "The casualty may have been prevented or its effects minimized if the Master had returned to port or sought shelter as soon as the cargo started to shift after leaving port. The course of action followed under the circumstances was reasonable, however, in view of the initial success of the crew in re-blocking and bracing the cargo."

The investigation concluded, "Throughout this ordeal the actions of the Master and crewmembers of the BADGER STATE were in the best traditions of the sea. Although their untiring efforts failed to save the vessel, the calmness and devotion to duty which they exhibited undoubtedly prevented an even more extensive loss of life."

Sometimes, the sea just wins.

*Sources include: "SS BADGER STATE Explosion Aboard and Eventual Sinking in the North Pacific, December 26, 1969—U.S. Coast Guard Marine Board of Investigation Report and Commandant's Action" at dco.uscg.mil; Sailing Into the Abyss: A True Story of Extreme Heroism on the high Seas, by William R. Benedetto, Citadel Press, New York, 2005; NHHHC Dictionary of American Fighting Ships (DANFS); U.S. Department of Transportation, Maritime Administration (MARAD) site, maritime.dot.gov entries on *Badger State* and *Khian Star*.*



"Overhaul and Refitting Bathyscaphe Trieste," painting, watercolor on paper, Salvatore Indiviglia, 1961 (88-161).

H-041-6: *Trieste* and the First Dive to Deepest Part of the Oceans, January 1960

H-Gram 041, Attachment 6
Samuel J. Cox, Director NHHC
February 2020

The deep-diving bathyscaphe *Trieste*, launched in 1953, was designed by Swiss scientist August Piccard, built in Italy, and initially operated by the French navy. *Trieste* was purchased by the U.S.

Navy in 1958 for \$250,000 (roughly \$2.2 million to today) for the purpose of conducting deep-dive research. *Trieste* was assigned to the Naval Electronics Laboratory in San Diego and conducted some deep dives off the West Coast before being shipped to Guam.

Trieste was about 50 feet long. Most of its hull held 22,000 gallons of aviation gasoline for buoyancy, plus water ballast tanks and releasable iron ballast (held by electromagnets so that if there was an electrical failure, the iron ballast would automatically drop and the bathyscaphe would rise). The crew of two rode in a sphere slung underneath. The original *Trieste* sphere was designed to reach a 20,000-foot depth, but, after

purchase, it was replaced with a German Krupp-manufactured sphere rated for 36,000 feet (and was actually over-designed, with walls 5 inches thick).

Unlike the U.S. rocket and space program, the U.S. deep-sea diving program was deliberately conducted with no publicity. Chief of Naval Operations Arleigh Burk knew about it, but few others not directly associated with it did. (The Navy had suffered several embarrassing missile launch failures, after much publicity beforehand, and Burke was in no mood for a repeat.) *Trieste* was shipped to Guam, where it conducted seven test dives in preparation for an attempt to reach the bottom of Challenger Deep, the deepest part of the ocean in the world, located about 260 nautical miles southwest of Guam. The operation was designated Project Nekton.

On 23 January 1960, the auxiliary ocean tug USS *Wandank* (ATA-204) arrived at the dive location with *Trieste* in tow. *Wandank* served as the support and communications relay ship for the operations while USS Lewis (DE-535) provided additional support. The weather was not especially favorable, and *Trieste* had suffered damage during the transit. The crew of *Trieste* for the deep dive was the officer-in-charge, Lieutenant Don Walsh, and the pilot, Swiss engineer Jacques Piccard, son of *Trieste*'s designer. After consultation, Walsh and Piccard deemed that the damage was not mission critical and decided that, despite the rough seas, they would conduct the dive anyway. As *Trieste* was preparing to dive, a message came in from San Diego directing that the dive be cancelled. In the tradition of "Nelson's blind eye," the project director, Dr. Andreas Rechnitzer, pocketed the message, had a leisurely breakfast, and then reported back that *Trieste* was passing 10,000 feet—too late.

The dive commenced a couple of hours after sunrise and went according to plan, although there were more thermocline layers than

expected. At each layer, *Trieste* had the option to let the AVGAS cool in order to penetrate the layer, which would take additional time, or to release some of the reserve AVGAS. Since it was critical for *Trieste* to return to the surface before dark, Walsh and Piccard opted to expend some of their reserve. At a depth of 32,400 feet, there was a shudder and a noise, from an undetermined cause. In deciding whether to continue the dive, Walsh later said if it had been serious, they both already would have been "red mush."

The descent took four hours and 47 minutes and reached the bottom at 35,797 feet (the depth gauge read 37,800 feet, but turned out to have been incorrectly calibrated). The plan called for *Trieste* to remain on the bottom for 30 minutes, but after 20 minutes, the cloud of sediment raised by the submersible precluded any further observation. Walsh was somewhat surprised to discover that they could still communicate with *Wandank* while they were on the bottom—which had not been expected. Walsh and Piccard observed sparse marine life on the bottom, but their report of a type of "flatfish" provoked scientific controversy and is generally considered to be erroneous, as fish aren't believed to be able to live below 27,000 feet of depth.

After dropping the iron ballast, the ascent took three hours and 15 minutes. Upon reaching the surface, Walsh and Piccard discovered that the noise they had heard was that the viewing port in the entrance/exit tube had cracked—due to temperature change rather than pressure—as the entrance tube was free-flooded during operations. Nevertheless, care had to be taken while blowing compressed air to de-water the tube, because had the view port shattered and the tube remained flooded, they would have been trapped inside the sphere for however long it took to tow *Trieste* back to port. Although there was intent to conduct further dives, it turned out that *Trieste* could not be reloaded with iron ballast while at sea. It would be over 50 years

before another attempt would be made to reach Challenger Deep.

Lieutenant Don Walsh was a 1954 graduate of the U.S. Naval Academy. After a couple years aboard the attack cargo ship USS *Mathews* (AKA-96), he was selected for submarine duty and served aboard USS *Rasher* (SS-269), one of the most successful submarines of World War II. While aboard *Rasher*, Walsh was informed not to bother applying for the Naval Nuclear Power Program due to his relatively low class standing at the Naval Academy. According to Walsh, the detailer informed him, "you are officially stupid." Despite this discouragement, while assigned to the staff of Submarine Flotilla 1, he volunteered for the fledgling deep-dive program (and would become Navy Submersible Pilot No. 1). Walsh would get the last laugh, since he became the only lieutenant in the U.S. Navy to be wearing a Legion of Merit, personally presented by President Dwight D. Eisenhower. Walsh went on to be one of the first U.S. naval officers to earn a doctorate while in the service, and would ultimately command USS *Bashaw* (AGSS-241) before retiring as a captain, and going on to be a world-renowned ocean scientist and explorer, with countless awards and accolades.

Trieste would subsequently be used to locate the wreckage of the lost nuclear submarine USS *Thresher* (SSN-593) in 1963 and, after extensive modifications would return to the site and retrieve parts of the lost submarine. Although heavily modified over the years, *Trieste* remains on display at the National Museum of the U.S. Navy on the Washington Navy Yard. (*Trieste II* [DSV-1], which examined the wreck of USS *Scorpion* [SSN-589] is on display at the Naval Undersea Museum in Keyport, Washington.)

It wasn't until 2012 that anyone else attempted to dive to Challenger Deep, but in that year movie-maker/adventurer James Cameron made a solo descent in *Deepsea Challenger*, reaching 35,787 feet. In 2019, Victor Vescovo made a several

descents in *Limiting Factor* to 35,843 feet, which would be the world record deepest dive, 52 feet deeper than *Trieste*.

Sources include: "It was Just a Longer Day at the Office—an Oral History with Don Walsh," 16 November 2016 at science.dodlive.mil; "The First Deepest Dive" by Norman Polmar and Lee J. Mathers in January 2020 Proceedings; NHHHC Dictionary of American Fighting Ships (DANFS); and biography of CAPT Don Walsh in the NHHHC Archives.