



# The Dolphin Brotherhood

## Meeting Recaps

Here are some short recaps of the most recent Seattle Base meetings. Please note that the Tolling of the Boats ceremony will take the place of September's meeting.

### July Meeting

In July, Dave Goodson and Peter McCafferty talked to us about their hobby of model yard railroading. Dave brought a sample of the type of train that he runs in his backyard. He started with this hobby when he was three years old. What started out as a hobby has turned into a business for Dave. Using his ET, knowledge he converts trains to run, whistle, toot, and sound like real trains, all by remote control.

Dave and his family have turned their backyard in to a maze of track and can run up to 20 trains at one time. It has taken them over 5 years to construct this project. He brought a movie along to show the work that went into his hobby. The railroad has survived rain, snow, blackouts, and even an earthquake to keep on running. Anyone is welcome at Dave's

house every 1st and 3rd Friday to become an engineer.

### August Meeting

In August we all got a chance to enjoy, or be subjected to (depending on your point of view), the tale of Bob Opplé's, our favorite DC Electrician, trip to visit the 'Rusty Ruskie' in San Diego. While there were some doubts about a few of Bob's claims, there was plenty of plausible information too. The B-39 (AKA Cobra) submarine is now part of the Maritime Museum of San Diego's collection. Bob met up with the museum manager and a few members, and led them on a walkthrough of the boat. During the walkthrough, Bob explained some submarine operations to the group (this is where many of his most outlandish claims were stated). Right now the museum is planning on having some retired surface officers act as the primary tour guides, which may give visitors a slightly skewed view of submarines. Unfortunately it seems that issues between the museum and the San Diego SubVet Base will probably inhibit any volunteer efforts by the SubVets.

## Commander's Corner

By Karl 'Dutch' Krompholz, Base Commander



The USSVI National Convention in Kansas City is the next big event on our calendar. It will be my first as an officer, so I am looking forward to meeting other Base

Commanders from around the country, and sharing ideas.

When I return we will only be days away from our local Tolling of the Boats Ceremony (September 10th). We have several members being inducted into the Holland Club, so let's show them our support them by making this the best attended event of our season. Invite your friends, neighbors, and people you meet on the streets (okay, maybe not those on First Ave. downtown).

The October Business Meeting (no meeting in September) will showcase the UW Engineering Department with this year's entry in the submarine race competition and the students who built her. By then we should be well into the planning phase of our Christmas Luncheon. So, if you have ideas or suggestions about it or other activities, please be prepared to discuss them at that time.

Passing on the reigns to next year's commander would not be right unless the base was better off than it was when I assumed the position. You can help with this task. Feel free to contact me anytime. Keep me honest, but most of all CONTRIBUTE. Be active. We can make this Base an example for others to follow.

Fraternally,  
Karl "Dutch" Krompholz

## Eyes from the Deep

### A History of U.S. Navy Submarine Periscopes

By Thomas Holian, from *Undersea Warfare* Fall 2004

Mention the word 'submarine' to anyone, and a host of images will spring to mind. The sleek, low, black silhouette pier-side or sliding through the ocean. The drama of an "emergency blow" as the boat breaches the surface in a volcanic eruption of water. And of course, the sinister image of the tip of a periscope feathering the surface, hinting what lies lurking below. And Inside? The one image indelibly marked on the popular mind is that of the commanding officer crouching in the middle of the control room peering through the periscope – "dancing with the gray lady."



**An officer aboard USS Bullhead (SS-332) "dancing with the gray lady." This photo was taken during a Pacific war patrol in the spring of 1945.**

These last two images arise from one inescapable fact. Once submerged, submarines are essentially blind to the visual world above the surface. Windows and portholes are more or less useless, since they provide only the minutest view of the submarine's surroundings, especially at depths where the sun's light never penetrates. Early submariners realized early in the game that they needed a way to see at least some distance above the surface of the water while submerged, without compromising their boats' inherent stealth. In 1854, the Frenchman Marié-Davy designed an "optical tube", which was simply a cylindrical housing with mirrors placed at 45-degree angles at each end. Similar primitive devices were first added to submarines in the 1880s, but they provided only a very poor view of the surface, often less than 10 degrees wide, and were generally considered next to useless. Various navies and inventors made minor improvements to this design in the following years, but a breakthrough came in 1902, when American submarine pioneer Simon Lake included his patented "Omniscope" on his own 65-foot, 130-ton

Protector. The Omniscope, which Lake had envisioned as early as 1893 in his application for a patent for his "Submarine Vessel," consisted of eight prisms, including two trained ahead, two astern, and one on each quarter. While the forward-looking prisms afforded an upright view, the views to the side were on edge, and the rear view was inverted. This allowed the operator to view the entire horizon from below and even to estimate range. Moreover, the omniscope could be rotated, but the view was considered excessively dim.

Around 1900, Irish-born American inventor John Holland, the so-called father of the modern submarine, experimented with a lens and mirror system called a camera lucida that was mounted in a long tube and projected an image of the above-water scene onto a white sheet of paper. However, this technique provided little advantage, because the image gave no sense of distance and was essentially the same as viewing a photograph. Holland abandoned this approach and reverted back to the then-standard method of fitting a small conning tower with view ports on top of the hull and "porpoising" the submarine at the surface so that the conning officer could establish his course and aim torpedoes when the tower broke the water. Unfortunately, this approach had the adverse effect of revealing the attacking submarine to the enemy.

The first U.S. Navy periscope was a British-made "altiscope" rigged through the forward ventilator of *USS Adder* (SS-3, later A-2). The fixed-direction device underwent trials in November 1902 and impressed the trials board, but they asked for additional improvements, including two different lengths. Follow-on tests onboard *Adder* and *USS Moccasin* (SS-5, later A-4) were less impressive, with the CO of the test boats stating in September 1903 that he preferred Lake's Omniscope. The Navy attempted to purchase periscopes from Lake, but he was only interested in selling entire submarines. In any event, the Omniscope was apparently too large physically to gain lasting favor. Electric Boat, created in 1899 with the Holland Torpedo Boat Company as a wholly owned subsidiary, developed a rotating periscope, but these eventually fell out of favor because, as it rotated, the image rotated as well, so that when the periscope faced aft, the image was inverted (similar to Lake's Omniscope). It appears now that while periscopes had become standard equipment on U.S. submarines by 1905, their design had not yet been standardized. The Navy continued to experiment with both fixed and rotating periscopes – the latter with either a fixed eyepiece or walk-around design – and varying sizes and diameters. In 1909, the Navy also began

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experimenting with periscopes that could partially retract into the submarine, to reduce drag. As a result of this continuous experimentation, the Navy only awarded small-specialized periscope contracts as new submarines were built or as replacement optics were needed.

Meanwhile, Holland still refused to use these early periscopes, believing that they were too limiting operationally. Because the early instruments were relatively short, with a fixed height, a certain amount of "porpoising" was still necessary to bring the boat near the surface. If the periscope tube was too short, the submarine hull could easily broach the rolling waves, but if it was too long, the image became too dim and was significantly distorted by vibrations in the mast induced by the moving water. A thicker tube damped the vibrations but also increased the wake created by the periscope as it cut through the surface of the water.

The basic design for the modern periscope was perfected by the industrialist Sir Howard Grubb in Britain. His father founded a Dublin telescope-making firm, which Grubb eventually inherited. Renowned for his optical expertise, Grubb was commissioned to develop periscopes for the British Royal Navy's new Holland-designed submarines in the early 1900s. Improving upon Lake's omniscopes design, Grubb eventually perfected his own version during World War I, which was installed on the majority of the British Royal Navy's submarines, and on several U.S. Navy boats. The Grubb periscope and subsequent variants remained the submarine's only visual aid for over fifty years, until underwater television was installed aboard the first nuclear-powered submarine, *USS Nautilus* (SSN-571).

From these early days through World War II, various improvements were made to periscopes, including the ability to rotate and be retracted into the hull. This allowed periscope tubes to become longer while the diameter was decreased to reduce wake. Around 1911, Dr. Frederick O. Kollmorgen proposed the introduction of two telescopes into the periscope, instead of a series of lenses. This allowed the window at the top of the periscope to become a simple piece of glass, as opposed to a prism, which in turn allowed for a much smaller head. The telescopes also made it easier to develop tubes of various lengths because of the lack of intermediary lenses. In 1916, during World War I, Kollmorgen formed the Kollmorgen Corporation, which quickly became the dominant U.S. periscope manufacturer. The two-telescope design was tested during the war, and became standard for periscopes into the modern day.

In the late 1930s, submarine operators convinced the Bureau of Ships to develop a new type of periscope that eventually became the "needle nose" Type 1 attack design. This featured a tube that tapered at its head to reduce the surface wake. Recognizing that by this time aircraft were a major threat to submarines, Kollmorgen in 1940 offered a modified Type 1 periscope, dubbed the Type 2. The Type 2's field of view extended to 90.5 degrees of elevation, which enabled the attack periscope to cover the entire sky. The Type 3 designation was used for earlier large-head search periscopes, but this was replaced in World War II by the Type 4 night periscope, which featured a much fatter head (for greater light-gathering power) and a shorter tube (to reduce loss of light inside). A major innovation during this period was the advent of quality periscope photography. Throughout the course of World War II, most submarines sailed with two instruments – an attack periscope and a search/night periscope. The Type 2 periscope could only operate during daylight, but it was known for superb optics and minimal wake. Improvements were made for greater depth, improved optics and optical coatings, and photo capabilities, and it remained in use through the 1990s.

By the 1950s, evolutionary improvements to the Type 4 design resulted in the Type 8 periscope. Frequent modifications during the decades since have made it one of the primary "hull-penetrating" periscopes in the fleet today, used on all *USS Los Angeles* (SSN-688), *USS Seawolf* (SSN-21), and *USS Ohio* (SSBN-726) class boats. The Type 8 periscope features multiple levels of optical magnification, a day-and-night viewing capability, and an antenna system for EHF Low Data Rate (LDR) satellite communications.

Also in the 1950s, a special stabilized periscope, the Type 11 "star-tracker," was developed specifically for ballistic missile submarines to facilitate the more accurate navigation needed for missile launches. It was designed to take azimuth sightings of stars to update the planned Ships Inertial Navigation System (SINS), and it was the first periscope developed specifically for the nuclear-powered age.

With the advent of the *Los Angeles* class fast attack submarine design in the late 1960s, the Navy developed a new attack periscope, the Type 18, which offered 18-times magnification, as opposed to its precursor's eight. Kollmorgen again won the contract to design and build the periscopes, partly because their design allowed using a camera without removing the periscope's faceplate. This design eventually permitted the use

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of television cameras, whose images can be displayed throughout the submarine and recorded. The Type 18 periscope is one of the primary hull-penetrating periscopes in the fleet today, used on all *Los Angeles* and *Seawolf* class submarines. Important features of the Type 18 include multiple magnification levels, single-axis stabilization, digital photography, low-light image intensification, color television, and day-and-night viewing capabilities. The Type 18 periscope is currently undergoing upgrades for a video package known as SUBIS (Submarine Imaging Subsystem), a set of analog video and digital still cameras that record the view from the periscope and provide image enhancement software for image analysis.

Although the Type 18 represents the current state-of-the-art in U.S. submarine periscopes, the Navy's new *USS Virginia* (SSN-774) class submarine will be getting a completely new set of eyes. Virginia's AN/BVS-1 Photonics Mast has replaced the traditional optical lenses and prisms of conventional periscopes with electronic imaging equipment. Each *Virginia* class submarine will have two photonics masts that do not require physical penetration of the ship's hull, but instead "telescope" out of the sail. Importantly, this allows *Virginia*'s Control Room to be moved from the cramped first deck to the more spacious second deck. Additionally, there will be no "gray lady" to dance with – or take up valuable control-room space – since the customary periscope in its below-deck well gives way to a fiber optic system that carries images from the photonics masts to two workstations and a commander's control console, each equipped with two flat-panel displays and a keyboard, trackball, and joystick. The masts are equipped with three cameras – color, high-resolution black-and-white, and infrared – in addition to a mission-critical control camera in a separate, pressure-proof and shock-hardened housing and a laser range finder that will provide accurate ranges to targets and aids to navigation. All of these sensors are housed in the mast's rotating head.

Capt. David Portner, the Program Manager for the Imaging and Electronic Warfare Program Office, notes that "the Photonics Mast is one of the revolutionary systems aboard *Virginia*. Its digital imagery design eliminates the need for a major hull penetration required for optical periscopes. Not only does it keep the CO from having to focus entirely on the top-side scene, but it has allowed the ship designers to break the hard link between the sail and the Command and Control System Module (CCSM). In doing so, *Virginia*'s sail has been moved forward for improved hydrodynamics and its CCSM

relocated down one deck and aft, affording this critical space more room and an improved layout. The non-penetrating design also increases hull integrity and simplifies maintenance."

In a hundred years, submarines have progressed from having to porpoise at the surface to see outside, through crude viewing devices fixed in height and direction, to today's hull-penetrating, multi-purpose, camera-equipped scopes, which allow the boats to get a clear view of the outside world from up to 60 feet below the surface, while revealing almost nothing of themselves. And yet, today's periscopes are based on the same fundamental principles of prisms, lenses, and telescopes that their predecessors exploited a century ago. But radical change is on the way. With the first of the new *Virginia* class submarines already in the water, the submarine's capability for viewing the world above the surface is taking off in the first fundamentally new direction since the days of John Holland and Simon Lake.



**Kollmorgen's Photonics Mast, the next generation in submarine optics. The infrared camera is located in the lower rectangular housing, while the optical cameras and laser range finder are located directly above. To the right is the mission critical camera, and the mast head is topped by the antenna assembly.**



## Naval Undersea Museum Unloads Historic Torpedoes

By JO1 Mary Popejoy, Northwest Navigator staff writer

The Naval Undersea Warfare Museum at Keyport welcomed 13 World War II Mk 14 Torpedoes into their space May 4 after 11 years of paperwork, preparation and persistency.

The journey began in 1994 when Dusty Rhodes, Industrial Specialist (Ordnance and Electronics) and a former Master Chief Torpedoman of Naval Undersea Warfare Center (NUWC) Keyport, discovered the historical torpedoes at the Army Ammunition Depot in Hawthorne, Nev.

"We were climbing through magazines in the storage areas at Hawthorne, and Bob Bennett, one of the guys who was helping me out said that he had found some of the "big boy" torpedoes in crates," said Rhodes. "I went over to where he was standing and noticed a Naval Ammunition Logistical Code (NALC) of 1502 stenciled on one crate. I recognized the number from my days in the Fleet as a Torpedoman's Mate as being a Mk 14 Torpedo," he added.

They soon discovered they had eleven of the famous torpedoes. Once Rhodes checked them out he found that they were on the Army's demilitarization list. As Single Manager of Conventional Ammunition it is the army's responsibility to coordinate and fund the destruction or demilitarization of virtually all explosives or weapons within the Department of Defense (DoD). This method is the Army's way of tracking the destruction of weapons or explosives.

"Back in 1994 I had to ensure the priority of these torpedoes was low enough to permit me the time to sell the concept of transitioning them to museum status. It was," said Rhodes.

After many discussions with the Army, they established a partnership to allow the famous torpedoes to be transitioned to museum status to be placed on display, vice being destroyed. Two additional MK 14 Torpedo main assemblies were subsequently discovered in a storage building and the army agreed to melt the explosives from two additional MK 16 Mod 6 Warheads to increase the number of torpedoes from 11 to 13.

"In Oct. 2003, the warheads were removed from the torpedo and exploders checked for explosives. The igniters, alcohol fuel and air flasks were also drained," said Rhodes. "The next step was to turn the warheads over to the Army so they could put the warheads through a melt out process to remove the HBX 1 explosives and then through a flash furnace and burn the any residual explosive out. They then did a swab test to certify that the warheads were inert. Once that was done, the

warheads were reattached to the main assemblies of the torpedoes," said Rhodes.

He added that safety was paramount during the process.

"We didn't know what we were going to see inside the weapons, so we took every conceivable safety caution imaginable so we could be prepared for the worst case scenario," added Rhodes.

Once the torpedoes were cleared, they were shipped from Nevada and taken to the Keyport Museum where they will be refurbished so they can be suitable for display in historic ships, museums or qualified organizations.

In order to get one of these fine pieces of history there is a certain criteria that must be met.

"Organizations who want to put one of these on display must meet the security and the environmental criteria because we want them to keep their beauty for many years to come," said Bill Galvani, director of Keyport Museum.

Preserving these torpedoes allows history to be a part of our present.

"Having these torpedoes preserved gives the young people of today and in the future an idea of what we used back during WWII to keep our country free because we do not start wars just for the fun of it," said Rhodes.

And for Rhodes having this project come full circle before his retirement from government service is simply bitter sweet.

"I am ecstatic that 11 years of intense effort finally paid off, but I couldn't have done it without the help of the Keyport Museum, the army depot in Hawthorne, our NUWC Keyport Detachment in Hawthorne, the U.S. Army Joint Munitions Command in Rock Island, Ill., the Day-Zimmer Corporation, Hawthorne, NV, TMCS (SW) Terry Pheabus (ret), BAE Systems Keyport and TMC Bob Pallat (ret) Akron, Ohio. Everyone worked together as a team and made this process a huge success," he added.



**One of the Mk 14 torpedoes being moved at the museum**

## Surviving crew members of the German *U-505* recall the war

By William Mullen, Chicago Tribune

On a pleasant evening in early June, two former German U-boat crewmen quietly dined together in the new \$35 million exhibit hall built by the Museum of Science and Industry for one of its most prized holdings, the captured German submarine, the *U-505*. The occasion was a small dinner for the museum staff and selected guests the night before the exhibit's grand opening.

Karl Springer, 83, and Wolfgang Schiller, 82, were the only two of the seven surviving *U-505* crew members who could attend the ceremonies. Each was still a teenager when he joined the crew, and the mortality rate for submarine duty was so high that both men assumed they would be entombed inside the boat on the ocean bottom by war's end.

"I didn't expect to live," said Schiller, a tall, craggy-faced, white-haired grandfather who joined the *U-505* crew in 1942. "None of us did. How could we? As the war went on, more and more boats failed to return from their missions."

Since the Museum of Science and Industry installed the submarine in 1954, it has been the museum's most popular single attraction. More than 24 million people have toured its interior, and for many, it remains one of their primary memories of the museum.

In telling the boat's story, the museum emphasizes the remarkable saga of the *U-505*'s capture two days before D-Day in 1944. It remains one of the most daring acts of seamanship and courage in naval history, a tale even more vividly told in the new exhibit.

What isn't as well-known is the story of the *U-505*'s combat service before its capture. Few who file through its impossibly cramped passageways have an inkling of its dark, violent wartime past, a vessel plagued with bad luck and, for much of the conflict, a hated, tyrannical captain. Some of that story was relived the night of the dinner as Springer and Schiller reminisced. Two books on the *U-505* published last year also detail its wartime service: "Hunt and Kill", a collection of articles edited by military historian Theodore Savas, and "Steel Boat, Iron Hearts", a memoir by crew member Hans Goebeler, published posthumously.

Being selected for duty on the U-boats, the most elite unit in the German navy, was a great honor. Only 10 percent of sailors were selected for training, and only 10 percent of them made it through. Most were bright, working-class teenagers who had proved their proficiency in skills like diesel

mechanics or electronics in trade schools. No uniform in the German military was more respected than that of the U-boatmen, but there was a grim reality behind the honor of serving on the submarines. As the war wore on, the average life expectancy of German subs and those aboard them dropped to just three months.

Early in the war, it appeared that U-boats might carry Germany to victory as they sank fleets of freighters trying to bring food and munitions from the Americas to European armies struggling against the German war machine. German "wolf packs" - several subs operating in tandem to attack and sink convoys - were the terror of the high seas. Had Germany's success against Allied shipping continued for another year, it might have won the war. But by the summer of 1942, the Allies began to gain the upper hand with improved sonar locating devices and a rapid increase in anti-submarine surface ships. Their "wolf packs" decimated, the Germans turned to a "lone wolf" strategy, using bigger, better-armed subs that could roam widely and hunt enemy ships by themselves. The *U-505* was one of these, capable of missions up to 12,000 miles from home.



**U-boat pens in Lorient**

Home for *U-505* was Lorient, one of five French coastal towns the Germans used as heavily protected submarine ports. Like all the port towns, Lorient had a "sin strip," a nightclub and bar district stocked with beer, bands and women to entertain submariners on leave. Because the crews faced such terrible peril on their missions, they got nearly double what other German soldiers were paid. That gave the young seamen plenty to spend while in port, packing in as much living as they could. "We'd be gone for three or four months at a time, coming back and retrieving all that back pay every time," says Pete Peterson, 84, a mechanic on one of the *U-505*'s sister ships. "We bought the whole town, sometimes." Peterson married an American woman after the war, moved to Ohio and became an American citizen. He has helped the museum for years with insights into the history of the submarine war and technical information on the U-boats. Commissioned in 1941, the *U-505* sailed out of

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Lorient in early 1942 on its first operational mission off the coast of Africa. It was under the command of Capt. Axel-Olaf Loewe, a skipper who demanded the highest shipboard performance from his men, but was otherwise casual about military regimen and things like the dress code. Approachable and sympathetic, he was extremely popular with his crew. Under his command in the early months of 1942, the *U-505* sank seven Allied freighters in the Atlantic. As it returned periodically to Lorient for refitting and restocking, it was met with a hero's welcome, the men standing on deck in formation as brass bands blared and cheering crowds applauded them from the docks.

At sea in September 1942, Loewe suffered a ruptured appendix and was hospitalized in Lorient. By then, Allied units, using sonar and blanketing the skies with aircraft that worked in concert with sub-killing surface ships, were making life hell for U-boats. On the *U-505*, Loewe's replacement, Capt. Peter Zschech (pronounced "check"), was about to make life even worse for the boat's crew. Just 25 when he took command of the *U-505*, Zschech was the youngest cadet ever graduated from the German naval academy, according to "Hunt and Kill." He proved to be an aloof, hot-headed tyrant, his approach rigid and by-the-book. Almost every account paints him as quick to blame others for his own ineptitude, and to treat most of his 50-man crew with contempt.



**Kapitänleutnant  
Peter Zschech  
*U-505*'s second  
commanding officer**

"He certainly didn't like petty officers, I can tell you that," said Springer. Though enlisted men, petty officers were the crew bosses who were supposed to be accorded special deference by officers and crewmen alike.

Springer, a master electrician, oversaw a team who tended the electric motors that propelled the sub while underwater. Springer still snorts in disgust at the memory of Zschech falsely accusing him and other petty officers of a breach of regulations for having a woman in their quarters while at Lorient. He made them drill for hours on a parade ground in infantry gear and field packs in

front of the men who served under them. Such drills were a favorite form of punishment by Zschech while the *U-505* was in port.

The men decided he drove them hard because he craved personal glory. Wrote Goebeler: "We suspected that Zschech had a bad case of Halsschmerzen, the 'sore throat' common to many young officers that could only be cured by wearing a Knights Cross medal around the neck."

At sea, submarine crews were used to long periods of tedium broken by episodes of breathless excitement and terror. Electricians, mechanics and radiomen worked in shifts, manning their posts for several hours. When the shift changed, the men going off duty jumped into the still-warm bunks vacated by those going on duty. When the sub captain spotted a vulnerable enemy ship, he might trail it for hours as he maneuvered the boat into position to fire its torpedoes. It was a tricky business that tested a skipper's skill, and most pursuits ended in failure when target ships steamed out of range.

Having sunk seven ships in a few months, Loewe obviously was a skilled captain. And when he sank an enemy ship, he was also a gentleman, surfacing to make sure that the life rafts of the survivors had adequate food, water and medical supplies, according to Goebeler's account.

Zschech, on the other hand, had trouble calculating the direction and speed of his targets. In his 14 months on the *U-505*, he sank only one ship, the British freighter *Ocean Justice*, but did it in a way that bothered the crew even more.

After *Ocean Justice* sank, "Zschech ordered us away from the site without checking on the condition of the survivors," Goebeler wrote. "That unsettled me. Under Loewe, we had done all we could to adhere to the rules of war and common decency." Under Zschech, "I felt that we were acting like the heartless hunters that the enemy propagandists portrayed us to be."

Most German submarines, including the *U-505*, were not equipped with snorkel tubes that would have allowed them to use diesel engines under water, and they had to rely on electric motors for propulsion. The motors were powered by batteries that ran down within a few hours, forcing the sub to surface and run on diesel power while the batteries recharged. That made them vulnerable to being spotted and hit by Allied sub hunters.

Two days after it sank *Ocean Justice* on Nov. 7, 1942, the *U-505* surfaced in the Caribbean. A British bomber suddenly roared down and dropped depth charges, one ripping a huge hole in the *U-505*'s hull. The bomber was so close that the

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blast's concussion exploded the plane in midair, leaving the wounded sub safe but thousands of miles from Lorient. It took 37 agonizing days to return home, but heavy seas and bad weather helped shield it from other Allied encounters. It was the most severely damaged U-boat ever to return to Lorient for repairs, and was out of the war for most of a year. It was May, 1943, before the vessel was deemed seaworthy again, but for months it would discover problems and have to return to port. The crew suspected French workers were sabotaging the vessel.

"Whenever we went out to test the boat, something else broke down," said Schiller, who joined the *U-505* as a 19-year-old torpedoman. "Other officers in Lorient got angry at Zschech because they thought he should have been in charge of repairs and more vigilant. They made fun of him, I think. Usually when we returned from sea, there was a band playing on the dock, but as we kept returning for repairs, there was no band anymore. We didn't get the respect we used to."

By then, Germany was losing 90 subs a month under the Allied onslaught. The *U-505* crew knew hundreds of men who were lost at sea and, from their own experiences under enemy fire, knew intimately the fearful way most of them died.

"When the (depth charges) started coming down, you had to sit and take it," said Springer. "The explosions threw you about and knocked you to the floor. Switches fell off the equipment, light bulbs burst and everything would go dark. Water sprayed from leaks. You were defenseless and had to take what was coming. You certainly couldn't take a walk in the forest to wait it out."

Because sound carries so well underwater, the crew had to keep silent no matter how terrified they became. Allied ships attacking the subs listened carefully to see if their depth charges were doing damage or were aimed at a false target.

"First the noise is incredible," said Peterson, recounting how each had to silently confront his own mortality during such attacks. "Then there was a lull while (attackers) tried to hear you, then the bombs came down again. I would crouch and think that, if I ever got out of this alive, I'd never let the small problems of life bother me."

On Oct. 10, 1943, the *U-505* pulled out of Lorient on its way to the Caribbean on the last cruise under Zschech's command. The war by then had taken its toll on the young skipper, who had seen all of his close naval academy friends disappear with their boats to the sea bottom. As his last mission got underway, he rarely spoke and spent most of his time isolated behind the curtained doorway of his personal quarters, ordering the

*U-505* to travel submerged as much as possible as it traversed the Atlantic.

Midday on Oct. 24, 600 miles west of Lisbon, the crew began to hear distant explosions as Allied ships attacked another German sub. "Over the next several hours, the noise gradually got louder," wrote Goebeler. "It began to sound like the slow, steady drumbeat of a military funeral procession, inching ever closer to our position."

Zschech stayed in his quarters, showing no interest in coming to the control room to order evasive action. At 7:48 p.m., a frightened radioman hurried to rouse Zschech from his quarters. The Allied sub-killers had located the *U-505*. The captain drew back the curtain and emerged with a blank face while the sonar "pings" from surface ships began to echo off the sub's hull at an accelerating rate. The *U-505* had been targeted.

The first explosion sent the men sprawling. The next knocked the lights out. In the eerie glow of fluorescent paint on overhead air ducts the crew saw Zschech walking, still expressionless, to the radio room. The next blast was so close that the boat tilted as if it would roll over. Goebeler, who was in the control room, saw Zschech on his knees, leaning over. Another tremendous explosion sent everyone flying. The emergency lights snapped on, revealing Zschech lying in his own blood, a bullet hole in his skull and his pistol nearby.

He was still alive, so the men put him on his bed. He groaned so loudly that the crew worried that the enemy destroyers above them, which had stopped the attack, would hear him and resume their bombing. One of the men put a pillow over Zschech's face until he stopped breathing.

"Everything was silent," said Schiller, who was stationed far back in the sub's torpedo room, "so the news passed through the boat in a whisper, one man to the next, that the skipper had shot himself in the head."

The U-boat's second-in-command ordered bits of debris ejected in hopes that, as it surfaced, the attackers would think their target had sunk. It worked, and the surface ships sailed on. Schiller was ordered to bring lead weights to Zschech's quarters, where his body had been placed in a canvas hammock. They put the weights between Zschech's legs and that night, as the vessel surfaced, Zschech's lifeless form was dropped into the sea without ceremony.

Skipperless, the sub had to return to Lorient. There the high command assigned Harald Lange, at 40 the oldest captain in the fleet, to lead the *U-505*. Lange, experienced and level-headed, bonded immediately with the crew. But hard luck continued

Continued on next page



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**USS Pillsbury (DE-133) alongside U-505 after its capture**

to plague the sub, which never came close to sinking another ship. Instead, early in June 1944, it fell prey to a brilliant plan for its capture by Capt. Daniel Gallery, a Chicagoan who led the American anti-sub task force off Africa.

The *U-505* and the task force, made up of an aircraft carrier and five destroyer escorts, played cat and mouse for several days until June 4, when Gallery's ships surrounded the sub and dumped a ferocious barrage of depth charges, badly disabling it. As the *U-505* surfaced, Lange realized it would soon sink and ordered his men to abandon the vessel. As they did, planes from the task force raked its conning tower with machine gun and cannon fire to hurry the evacuation along, killing one German and shattering one of Lange's legs so severely it was amputated later.

The Germans piled out of the badly listing sub and leaped into life rafts. That gave an American crew an opportunity to jump aboard the *U-505* and halt its sinking. By doing so, they captured a German enigma code machine, top-secret German documents and the latest in German torpedo technology.

The sub was such a prize to the U.S. intelligence community that its capture became top secret. If Germany had learned that one of its submarines was in Allied hands, it would have changed codes and shifted away from the war plans captured on the sub. Thus the Pentagon chose, in the case of the *U-505* crew, to disregard the Geneva Conventions on prisoner treatment. The U.S. did not inform the International Red Cross of their capture, and their families in Germany were told the men were missing and presumed dead.

"Once in a while," said Springer, "the International Red Cross would announce it was coming to inspect the (POW) camp, and the night before, we'd be shipped to a hiding place."

When Germany surrendered in 1945, most of the men were not sent home. Instead they went to England, where they remained prisoners and were assigned to work details that included putting up housing for returning British veterans. They were all

released by late 1947.

Neither Schiller nor Springer is happy that they and their submarine were seized by the Americans, but both credit the capture as the reason they survived to the end of the war. "We were lucky men to get fetched out of the water," said Schiller, "and lucky to still be here, alive."

Of 1,168 German subs serving in WW II, only five survive, and the *U-505* is the last Type IX-class boat still in existence.

It sat on a concrete pad outside the Museum of Science and Industry for 50 years, and for a time it looked like the boat would eventually rust away, unprotected from Chicago's weather. But 24 million visitors are too many to ignore. The museum went to work on a plan to take the sub indoors, digging out a 35,000-square-foot underground pavilion beneath the museum's north lawn.

The grand opening was June 4, the 61st anniversary of the sub's capture, and was attended by more than 100 U.S. naval vets who had taken part in it. Probably none enjoyed seeing the *U-505* in its new home more than the two old men who had served on it. Despite all the horrors they experienced, they seemed happy that both they and the sub had survived to see that day.

"Seeing it here is fantastic," said Schiller. "I had a good life on this boat. When you are a sailor who has been on dangerous missions, you feel you are truly a part of the boat."

#### **Editor's Note:**

If you are ever in Chicago, it is worth the time and effort to go to the Museum of Science and Industry to visit *U-505*. You can find out more about the exhibit on the web at:

<http://www.msichicago.org/exhibit/U505/>



**Boarding party preparing to tow the U-boat**

## Tolling of the Boats

The Tolling of the Boats ceremony, along with Holland Club inductions, will be held at the Marina Pavilion on the waterfront in the city of Kirkland on September 10th. The ceremony is set to start at 1400 hours. The pavilion can seat around 150 people under the roof (if needed).

There won't be any food after the ceremony this year, but there are plenty of restaurants within walking distance of the pavilion.

We can still use volunteers to help set up and break down the chairs and other equipment needed for the ceremony. If you would like to help out or have any questions about the ceremony, contact Don Masoero (you can find his contact number in the list at the right).

Welcome Aboard New Crewmembers	
Donald Francke	Nevada 6/90
Ron B. Thody	Spinax 9/52

## Birthday Wishes

Here is a list of Seattle Base member birthdays for July and August. Be sure to wish them a 'Happy Birthday and many returns' the next time you see them, offer to buy them a drink, and see if you can guess how old they really are.

Ronald W. Melton	Sept 1
Jack R Olson	Sept 7
William W. Hoeller	Sept 11
B.K. Uptagrafft	Sept 12
John R. Pinkiewicz	Sept 21
James I. Kingman	Sept 22
Steve Freeman	Sept 25
Bill Godfrey	Sept 28
Robert J. Hughes	Sept 28
Charles E Stewart	Sept 28
Donald Sass	Oct 2
James L Durham	Oct 3
Thomas G Rice	Oct 9
Don Gentry	Oct 10
Gary E Flynn	Oct 18
Toby G Warson	Oct 18
Clifford C Nutter	Oct 23
John F. Soth	Oct 29

### On the Internet:

USSVI National Website: <http://www.ussvi.org>  
 Seattle Base Website: <http://seattlebase.donmac.org>  
 Don Gentry's BBS: <http://www.submarinesailor.com/forum>  
 Ron Martini's BBS: <http://rontini.com/bbs>

## 2005 Seattle Base Officers and Chairs

Commander:	Karl 'Dutch' Krompholz	253-631-5736
Sr. Vice Commander:	Steve Friedley	425-806-9116
Jr. Vice Commander:	(OPEN)	
Secretary:	Steve Shelton	206-526-1130
Treasurer:	Jim Harper	425-357-6485
Membership Chair:	Steve Friedley	425-806-9116
Ceremonies Chair:	Don Masoero	253-569-1916
Base Chaplain:	Don Smith, Mike Bennett	360-273-9416 206-767-1934
Chief of the Boat:	Ted Taylor	425-228-3764
Base Storekeeper:	Bill Giese	425-355-5590
Webmaster:	Don Smith	360-273-9416
Newsletter Editor:	Dave Schueler	206-243-6784

## Upcoming Meetings

### September 10

Tolling of the Boats at Kirkland Marina Pavilion

**October 19** at Redmond VFW Hall

The meeting starts at 7:00 PM with social time in the lounge before the meeting.

## Seattle Base Library

Bill Godfrey has volunteered to be the new base librarian. Bill has set up a system for checking out books and videos. He is also planning on getting a list of items in the library up on the Base website. If you are interested in a checking something out, contact Bill and he can bring it to the next meeting. Bill is also looking for donations for the library.

## Newsletter Notes

I am always on the lookout for articles for the newsletter, especially local news and items written by local members. If you spot an article, participate in a local event, or would just like to share some of your memories with the rest of the membership, please contact me and I will work with you to get it into the newsletter.

I am thinking about working on a series of articles on the submarine forces of other countries. If this would interest you, or if you have other article ideas, let me know.

The newsletter is available at the Seattle Base website. If you would prefer to get the newsletter online and do not need a hardcopy mailed to you, let me know.

Finally, if you have any comments, good or bad, about the newsletter, please feel free to get in touch with me.

Dave Schueler ( email: [daveshoe@aol.com](mailto:daveshoe@aol.com))

## Bridge Named For Submarine Veterans

By Karin Crompton, *The Day* staff writer

Sunday, it became official: The southbound lane of the overpass commonly referred to as the Gold Star Memorial Bridge is now legally recognized as the U. S. Submarine Veterans World War II Memorial Bridge. The northbound lane will continue to be the Gold Star Memorial Bridge.

The dedication of the bridge was held Sunday afternoon at the Submarine Veterans of World War II National Memorial East. About 120 people attended, including a few rows' worth of World War II submarine veterans, in a ceremony that mixed the dedication with a remembrance of V-J Day. Sunday marked the 60th anniversary of the victory over Japan.

For years, the bridge has been named in honor of the Gold Star Mothers, who lost a child during wartime. But a review of records showed that only the northbound span had been named for the group.

John Carcioppolo, the commander of the Groton base of U.S. Submarine Veterans and a retired master chief petty officer, had led the effort to get the bridge named. This year is also the 50th anniversary of the founding of the Submarine Veterans of World War II.

State Sen. Cathy Cook, R-Mystic, sponsored the Senate version of the bill, while state Rep. Edward "Ted" Moukawsher, D-Groton, raised the same bill in the House. Cook and Moukawsher attended Sunday's ceremony along with U.S. Rep. Rob Simmons, R-2nd District, and Lt. Gov. Kevin Sullivan, who served as the principal speaker.

"This nation is forever grateful for the sacrifice you and your shipmates and your families made," Cook said during the ceremony. "We, as the next generation, have an awesome obligation. We need to carry your story to our children and

grandchildren ... you are the Greatest Generation, there is no doubt, and you have passed the baton to us."

Moukawsher said he was "proud to know that future generations will see the sign that commemorates their service and stands for all time."

Sullivan said Sunday marked a weekend in which he had attended various ceremonies honoring veterans. They included a funeral Friday for the latest Connecticut soldier to die in Iraq and services Saturday for a Vietnam veteran whose remains had finally been returned home.

"We remember, we honor, we say thank you," Sullivan said. "We remember the remarkable service by these young men and those of you today and the names of those around us today, who served not just with distinction, but with incredible honor in the face of incredible risk and danger."

Sullivan and other speakers reflected on the efficiency of the submariners during World War II in sinking a large percentage of Japanese ships. The submariners also suffered high casualties.

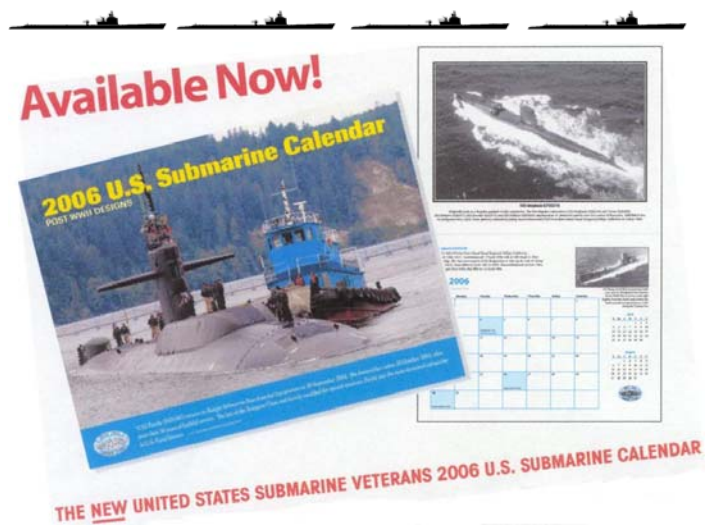
"No other service can claim to have endured so much and done so much," Sullivan said.

The ceremony was also marked by a 21-gun salute and with two proclamations by Gov. M. Jodi Rell, one to observe V-J Day and another to proclaim the bridge's naming.

"How appropriate it is to honor you today. ... Thank you. Our freedom and democracy is because of you," Simmons said.



**Presenting the Colors at the ceremony**



This stylish 2006 U.S. submarine calendar honors our submarine past by featuring the special submarine conversions, early missile, radar picket, and 'spook' boats following WWII.

Featured are two and four color images of 32 post-WWII submarines. The loss dates for all U.S. submarines are listed, along with other historical dates in USSVI and U.S. submarine history. See Bill Giese for your copy.

USSVI Seattle Base Newsletter  
c/o Dave Schueler  
10631 31st Ave SW  
Seattle, WA 98146

To:

*"No matter where you travel, when you meet a guy who's been...  
There's an instant kind of friendship 'cause we're brothers of the 'phin."*  
- Robert Reed, G.W. Carver (SSBN-656) -



**Mark Your Calendar!**  
Don't forget the 2005 Tolling of Boats Ceremony  
at the Kirkland Marina Pavilion. See Page 10 for  
more information.



**Dedication ceremony for the U. S. Submarine  
Veterans World War II Memorial Bridge in  
Connecticut. See the story on Page 11.**