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EDITOR
Chuck Senior
(310) 614-8419
chuck@americansubmariner.org

ASSOCIATE EDITOR
Dr. Darin Detwiler, LP.D.
(425) 232-5743
darin@americansubmariner.org

COPY EDITOR
Jeff Porteous
(714) 709-6584
jeff@americansubmariner.org

TREASURER
John Sidlovsky
(757) 328-9796
john@americansubmariner.org

ADVERTISING DIRECTOR
T Michael Bircumshaw
(951) 775-4549
michael@americansubmariner.org

CHANGE OF ADDRESS
Change of address notification and membership inquiries should be made by calling the national office at (360) 337-2978 or by email at: ussvi@telebyte.net.

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First Quarter	December 1
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In Every Issue

On the Cover
The attack submarine USS *Tucson* sails through the East Sea in July 2010, leading a thirteen-ship formation during exercise "Invincible Spirit." The exercise was the first in a series of combined naval exercises between the Republic of Korea and the United States in response to North Korea's unprovoked torpedo attack and sinking of the South Korean frigate *Cheonang*, in which forty-six South Korean sailors were killed. The series of military exercises was designed to send a strong, clear message to North Korea to stop its provocative and warlike acts.

(U.S. Navy photo by Mass Communication Specialist 3rd Class (SW/AW) Adam K. Thomas)

THE VIEW FROM THE BRIDGE

Jon Jaques
National Commander

Shipmates and members of our submarine family:

I hope you enjoyed a wonderful holiday season and that the new year brings you hope and health!

One of my favorite submarine quotes is from the introduction to the book *Submarines in Combat* by Rear Admiral Joseph B. Icenhower. He says:

Submarine warfare is enthusiastically endorsed by many, loudly damned by many, and abhorred by all. It is an ungallant means of war, but there is no gallant warfare in modern times. Moreover, submarine warfare is effective. It is effective because of the types of men who go under the sea to fight.

I appreciate all the messages and calls regarding my previous national commander's column. Everyone knows what a bubblehead is, but quite a few were unfamiliar with the term boxkicker—another term for storekeeper. It was good to hear that others value their dolphins as much as, or more than, their other professional accomplishments.

The year 2025 was a busy year for USSVI and our bases. We held 1,239 public events, presented 668 awards of recognition, and made 405 monetary contributions to other submariners or charities. We also recruited 348 new base members nationally. Many of our new members have come from social media and other online sources. Our new website should expand our reach to shipmates unaware of USSVI.

As you may be aware, our organization was targeted by three major phishing attempts using data extracted from our old website. We've identified the source of the compromised data and taken steps to secure our system. That said, I urge you to remain vigilant. If you receive any suspicious solicitation from someone you know in USSVI—such as an odd request for money or gift cards with hurried pleas and promises of reimbursement via Venmo, Zelle, or other means—please know it's a scam. **DO NOT reply directly to the suspicious email.** Verify any doubts by contacting the supposed sender separately using an email address or phone number *you personally know* for that person**.** I can guarantee the friend or acquaintance will be just as perplexed by the imposter's strange funding request as you are. Again, USSVI will never contact you to solicit such funds.

The national office in Groton, *American Submariner* magazine, and our website are essential to our organization. I want to acknowledge the concerns raised about the rising costs of maintaining and supporting these three cost centers. Your board of directors recognizes the value and necessity of all three and is committed to being good stewards of USSVI's financial resources. It goes without saying that without the magazine, the national office manager, or the website, it would be difficult to maintain a national organization to support our shipmates.

As we approach dues season, please look for an opportunity to support a shipmate who may be unable to renew his membership due to financial hardship. Also, please take time to vote and make your voice heard.

Finally, I want to give a shout-out to Bill Graham for stepping up as our new veterans service officer. Bill is well qualified and can point you in the right direction for any service-related claim.

Please let me know if I can be of service to you.

All the best,

Jon

www.ussubvets.org

NATIONAL OFFICE
Sharon Walsh
POB 1063
Groton, CT 06340
(360) 337-2978
ussvi@telebyte.net

MEMBERSHIP
Tom Williams
(512) 632-9439
texsubvet@yahoo.com

WAYS & MEANS
Tim Carlisle
(925) 812-4239
timcarlisle00@hotmail.com

CONSTITUTION & BYLAWS
Skip Turnbull
(217) 341-3321
Sub351@aol.com

AWARDS
Gary B. Galles
(757) 714-2733
nac.ussvi@gmail.com

NATIONAL CONVENTION
Richard (Ozzie) Osentoski
(734) 671-3439
ussronquil@yahoo.com

BOARD OF INQUIRY
Chairman
Ross Sargent (JA)
(703) 629-1119
Members
Dutch Holland
Herbert Orth
Bill Windle

BOAT SPONSORSHIP PROGRAM
Jack Messersmith
(928) 227-7753
MesserJ109@gmail.com

EAGLE SCOUT PROGRAM
Tim Pacl
(512) 379-6115
timp@alamoad.com

HISTORIAN
Ron Martini
307-674-9847
rontini@gmail.com

HOLLAND CLUB
Jim Irwin
(518) 383-2481
subvetjim@gmail.com

KAP(SS) 4 KID(SS)
John Riley
(203) 668-9131
kaps4kids@gmail.com

STOREKEEPER
Barry Commons
(925) 679-1744
nsk.ussvi@yahoo.com

VETERANS AFFAIRS
Bill Graham
(405) 373-4221
bill.r.graham@gmail.com

www.ussubvets.org

NATIONAL OFFICERS

Jon Jaques
National Commander
(615) 893-7800
JJaques@bellsouth.net

Tim Carlisle
National Senior Vice Commander
(925) 812-4239
timcarlisle00@hotmail.com

Tom Williams
National Junior Vice Commander
(512) 632-9439
texsubvet@yahoo.com

David Farrugia
National Secretary
(813) 951-1898
DFarrugia@tampabay.rr.com

John Sidlovsky
National Treasurer
(757) 328-9796
treasurer.ussvi.hrb@gmail.com

Bill Andrea
Immediate Past National Commander
(561) 790-1287
wcandrea@bellsouth.net

USSVI PURPOSE

"To Perpetuate the memory of our shipmates who gave their lives in the pursuit of their duties while serving their country. That their dedication, deeds and supreme sacrifice be a constant source of motivation toward greater accomplishments. Pledge loyalty and patriotism to the United States of America and its Constitution."

REGIONAL DIRECTORS

Western Region
Peter T. Juhos
(916) 983-7943
dsv3.ss1@gmail.com

Central Region
Richard Mitchell
(512) 639-0035
rick.ussvi@gmail.com

Northeast Region
Jeffrey R. Walsh
(860) 449-2103
neregiondir@yahoo.com

Southeast Region
Kenneth W. Nichols
(352) 465-7732
ken2lorna@bellsouth.net

DISTRICT COMMANDERS

Western District

DISTRICT ONE
(AZ, NM)
Dennis W. Ottley
(520) 219-8007
dottley888@comcast.net

DISTRICT TWO
(CO, UT)
Brian E. Bell
(719) 406-5992
Bebell4451@comcast.net

DISTRICT THREE
(ID, MT, WY)
Joe Tarcza
(509) 627-2168
jtarcza@charter.net

DISTRICT FOUR
(WA, OR, AK)
Jim DeMott
(360) 443-2466
jedemott@hotmail.com

DISTRICT FIVE
(Northern CA, NV)
Barry Wyatt
(916) 600-1425
SacSubVet@barrywyatt.com

DISTRICT SIX
(Southern CA, NV and HI)
Dave Vanderveen
(714) 270-8870
wd6dave@gmail.com

DISTRICT SEVEN
(WY, MT, Western SD, Western NE)
Bryan Brummet
(605) 718-0713
Bryanb@rushmore.com

DISTRICT EIGHT
(ID, UT)
Delmar (Del) Bowlby
(208) 305-9608
delbowlby@gmail.com

Central District

DISTRICT ONE
(AR, KS, MO, OK)
E. Dale Moses
(704) 248-7610
donutdad53@gmail.com

DISTRICT TWO
(WI, IL)
John Connon
(815) 768-5867
jjconnon@gmail.com

DISTRICT THREE
(MN, ND, SD, NE, IA)
David Farran
(319) 269-7389
dlfarran@gmail.com

DISTRICT FOUR
(Texas)
Carl Hirschenhofer
(817) 505-7250
donh948@gmail.com

DISTRICT FIVE
(KY, TN)
Marlin Helms Jr.
(865) 387-5625
marlinehelms@gmail.com

DISTRICT SIX
(IN, MI, OH)
Fredrick Kinzel
(586) 945-8561
fjkinzel@yahoo.com

Northeast District

DISTRICT ONE
(New England)
Richard Suitter
(508) 207-7731
Thresherbase.cdr2@gmail.com

DISTRICT TWO
(Lower NY, NJ, Philadelphia)
Michael E. Bost
(732) 979-4831
SubVet635@aol.com

DISTRICT THREE
(Pennsylvania)
Thomas C. Denton
(301) 845-0049
gcmfish@verizon.net

DISTRICT FOUR
(MD, DE, Northern VA)
Charles A. Martin
submissile@hotmail.com

DISTRICT FIVE
(Upstate New York)
Fred Marazita Jr.
(716) 545-8500
buffalobaseussvi@gmail.com

Southeast District

DISTRICT ONE
(VA, NC)
Michael E. Sears
(252) 451-8977
subsears1@gmail.com

DISTRICT TWO
(SC,GA)
Wayne Phillips
(803) 302-8877
waynephillips.ser2dc@yahoo.com

DISTRICT THREE
(FL Panhandle, AL, MS, LA)
Steven Walmsley
(228) 324-4309
walmsleysc@aol.com

DISTRICT FOUR
(Northern Florida)
Jay Mack
(407) 920-9347
jmack349@gmail.com

DISTRICT FIVE
(Southern Florida)
Fernando Borges
(954) 515-2735
fborges59@hotmail.com

District Commander of the Year

Michael E. Bost
(732) 979-4831
Subvet635@aol.com

CHAPLAIN'S CORNER

Jim Sandman
National Chaplain

Greetings and Happy New Year to all!

Before getting down to business, I want to remind USSVI bases that there are two options for including the Navy Hymn in your Eternal Patrol and Memorial Day observances on ussubvets.org—the Navy Hymn YouTube video and a recently added Navy Hymn audio-only file. Both can be found on the USSVI website at ussubvets.org. You can download the audio file by navigating to Eternal Patrol > Links. Once our new website is up, I'll provide similar guidance on where to find them. For more information about the YouTube video, see its end credits.

At the 2025 USSVI Convention in Orlando last September, we were fortunate to have retired U.S. Navy Captain Robert "Navy Bob" Roncska as our guest speaker at the awards banquet. He's enjoyed a stellar twenty-eight-year Navy career, including serving as military aide to President George W. Bush (who nicknamed him "Navy Bob" for carrying the "nuclear football"), commanding USS *Texas* (SSN 775), and serving as COMSUBRON SEVEN from June 2016 to June 2018. Throughout all this, he learned many lessons about life and leadership—which we're all fortunate he shares in his excellent book, *Beyond the Sea: Leading with Love*. He also generously gave a presentation on leadership earlier in the convention, signing copies of his book at a table afterwards. I was first in line!

Before the program began on the final night of the banquet, the good captain made a point of mingling with shipmates and guests at every table. He wanted to meet us all. *Personally*. His love and respect for people—especially his crew—are common themes in his book. I especially enjoyed learning his perspective as commanding officer toward his crew. He shares lessons learned from both skilled and poor leaders he served under before taking command of USS *Texas*, and later as Submarine Squadron 7 commander.

Soon after settling in as *Texas*' CO, Commander Roncska wrote a command philosophy for all hands, outlined as six key points for each crewman to acknowledge and commit to. I share three of them here:

- **Take Care of Shipmates.** Taking care of you personally and professionally will be one of my highest priorities. I will routinely ask for your input to improve our efficiency and our overall quality of life aboard *Texas*.
- **Have Pride in Yourself and Your Ship.** Personal excellence is a cornerstone of every successful command. The standards you uphold, the cleanliness of your space, your personal appearance, your conduct and demeanor—these are all reflections of your personal pride.
- **Show Strength of Character.** Integrity, loyalty, and courage are the character attributes I hold in highest esteem. Lead by example and do not compromise your character for short-term gain. This ship cannot function without men of strong moral foundation and character. We trust our lives to each other, and I expect every man to commit himself to upholding the highest standards in this area.

I encourage you to pick up a copy of Captain Roncska's book and enjoy the full story. I think you'll find many more things you can relate to as submariners.

If possible, also plan on attending the 2026 USSVI Convention in Corpus Christi from September 6–11. I'm sure there'll be another inspiring guest speaker and many old and new shipmates to reminisce with—not to mention fun nearby attractions to explore. To learn more, visit subvetconvention.org.

In His service,

Jim

Jim Sandman
jsandman85@gmail.com
(615) 975-4792

"Those who served under my command should feel a sense of belonging and purpose, know that they were highly valued, and believe themselves capable of great things."
—Robert "Navy Bob" Roncska, from his book, *Beyond the Sea: Leading with Love.*

Mail Buoy!

Letters from our readers

Views expressed do not necessarily reflect those of American Submariner, *its editorial staff or USSVI.*

In Ryan Walker's article "Submarine Cinema Surfaces" in the previous issue of *American Submariner*, one little-known fact about the movie *Men Without Women* is that it was one of John Wayne's earliest films. He appears at the end of the film as a radioman on the surface ship. You can see him clearly behind the diving apparatus, wearing earphones, in several scenes. He even has a brief speaking part. At that time, he was a relatively unknown actor and was not credited for his role.

Since he was not credited, you might not know this unless you've seen the movie.

David Self
Snug Harbor Base

The vicissitudes of Fate have been argued for ages, whether you believe in any preordained notion or not. As submariners, we've thought about it on watch, in the rack, in the bilge, or next to a hull opening.

In 1961, I was on a boat in San Diego with my wife's uncle. His name was Neal Carter, and he was a hospital corpsman who had done eight years with a Marine combat unit. He'd seen a lot of action during the Korean War.

I transferred to a new boat, changing my home port to Pearl Harbor, while Chief Carter was transferred to the Navy Hospital in Portsmouth, New Hampshire.

While USS *Thresher* (SSN 593) was conducting her sea trials, her crew's corpsman suddenly needed to take a short emergency leave. Chief Carter, being the only submarine-qualified corpsman in the area, was ordered by Submarine Operations in Portsmouth to sail with the *Thresher* if her regularly assigned corpsman didn't make it back in time for the next scheduled trial.

On that fateful morning, while *Thresher* was making final preparations to get underway, Chief Carter received a phone call from the ship's regular corpsman announcing he was on his way back to the boat and would make it aboard before she sailed.

One hour prior to casting off lines, the regular corpsman indeed arrived, and Chief Carter stepped off the brow. That single hour had made the difference between Carter's being allowed to live out his life—or appearing instead on a roster of perished shipmates, another name lost to submarine history.

I spoke with Chief Carter years after he retired, and he told me he believed Fate had played a distinct role on that decisive day. I've thought often about that profound turn of events over the course my life, and I can't help but believe Fate influences our future.

Guy Blades
Central Florida Base

Since I last wrote, I've received only a handful of inquiries about asbestosis and mesothelioma. A few of those who reached out shared their high-resolution CT scan results, and some reported lung issues. Tragically, several were diagnosed with mesothelioma. Other individuals reported asbestosis diagnoses or issues such as lung nodules and chronic obstructive pulmonary disease (COPD). The recent loss of a dear friend underscores the silent dangers many are unaware of.

If you served on any naval vessel built before 1980, you were almost certainly exposed to asbestos—especially if you worked in engine rooms, served on pre-commissioning crews, or underwent shipyard overhauls.

Asbestosis can lead to severe conditions, including lung cancer and mesothelioma. Symptoms may remain hidden for decades, sometimes surfacing forty years or more after exposure.

My personal experience began after a heart attack in 2009, when a doctor noted pleural plaques on my CT scan—evidence of significant asbestos exposure. Shortly after, I was diagnosed with asbestosis, a reality that could affect anyone who served.

Currently, there is no cure for asbestosis, but early detection can improve the long-term outlook. Individuals with mild cases can lead fulfilling lives, while severe cases may worsen over time. Approximately five percent of those with asbestosis may develop mesothelioma.

I suggest getting a no-contrast CT scan. Don't wait, get it now! Once you have your results, feel free to contact me for assistance navigating the VA system or for civil legal matters. My help is free—please share this with shipmates and friends.

You can reach me at:
HonorPath@yahoo.com
Call (951) 775-4549, and I will return your call.

T. Michael Bircumshaw
Scamp Base

WHAT'S ON YOUR MIND?

We want to hear from you. Questions, comments, queries, or whatever—that's what letters to Mail Buoy are all about.

Send your thoughts to:
mailbuoy@americansubmariner.org
and we'll consider them for publication.

United States Submarine Veterans

Mid-Atlantic Base Brings Submarine Smiles to Kids(ss)

Top left: Mid-Atlantic Base K4K Chairman Joe Reed with a new young submariner and said new recruit's prior "CO."

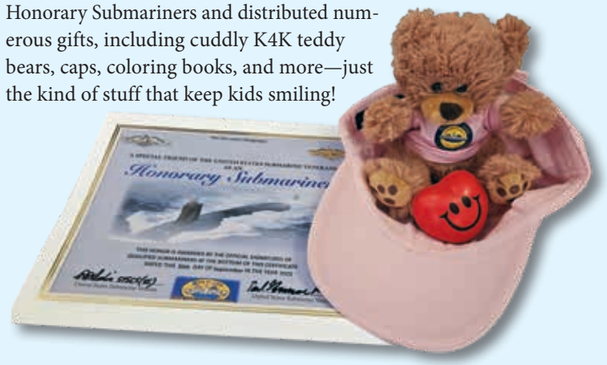
Right: l-r: Caregiver Rachel Schell, Joe Reed, a young Honorary Submariner, and National K4K Chairman John Riley.

Bottom left: A caregiver extraordinaire, plus Paul Strauss and Joe Reed with Honorary Submariner Samantha.

The Nemours Foundation, with over seventy locations across six states, is the only multi-state children's care system in the U.S. At Nemours Children's Hospital in Wilmington, Delaware, more than 100 children receive care.

In July 2025, the Mid-Atlantic Base K4K team, led by Chairman Joe Reed and joined by National Chairman John Riley, visited the kids, sharing stories of life aboard submarines and handing out a trove of goodies. The response was immediate and enthusiastic—so much so that Nemours invited the base to return quarterly.

A second visit in November was equally successful. During these two visits, the K4K teams thrilled about seventy kids, making them Honorary Submariners and distributed numerous gifts, including cuddly K4K teddy bears, caps, coloring books, and more—just the kind of stuff that keep kids smiling!



Centurion Submariner Celebrates with Subvets

On Saturday, October 18, 2025, nine submarine veterans from the Minneapolis-St. Paul Base set course for Wayzata, Minnesota, to celebrate John "Jack" Hagen's 100th birthday—held lovingly at his home.

100 years: A submarine birthday to remember.

The house was packed with family and friends. A treasure trove of funny and moving stories was shared all around. And to everyone's delight, the event culminated in a delicious strawberry-topped angel food cake.

Jack's journey began in July 1943, when he joined the Navy at age seventeen. After boot camp, he attended Fleet Sonar School in San Diego, making history as a member of the first crew to board the USS O*klahoma* (BB 37) after she'd been raised following the Pearl Harbor attack. He then served on two destroyer escorts before volunteering for submarines in 1946.

Jack earned his dolphins in 1947 on the USS *Chivo* (SS 341), then continued his distinguished service aboard *Bashaw* (SS 241), *Pickerel* (SS 534), *Mingo* (SS 261), *Bream* (SS 243), and *Redfish* (SS 395). Not surprisingly, he refused to leave the underwater world behind when retiring from the Navy in 1963; instead, he joined up with Electric Boat to install sonar platforms on new construction boats.

Asked in a local TV interview in 2022 why he'd stuck around so long, Jack summed up his thoughts perfectly: "I liked it. I was on submarines, and it's the greatest bunch of guys in the world." (You can watch the full interview at: https://bit.ly/4psTOQJ.)

Still vibrant at age 100, Jack remains sharp and active, enjoying life in Wayzata with Audrey, his wife of thirty-five years. Here's to a century filled with captivating stories, deep camaraderie, and the unmatched bond of submarine brotherhood!

Reading Base Subvets Honor Veterans at Veterans Day Ceremony

On Veterans Day, November 11, Reading Base subvets dressed in foul weather gear and gathered at Reading's Veterans Memorial Grove in City Park under gray skies and frigid, gusting winds. Joined by various veteran organizations, officials, and community members, all were on hand to honor those who'd served our nation well.

Reading Base members gather for a photo after laying a wreath at the Submarine Memorial Monument in Veterans Memorial Grove on Veterans Day. *(l–r:)* Bob Rautzhan, Lenny Krug, Bob Wambold, Tom Krick, Bill Brann, and Lynn Shollenberger.

The featured speaker, retired Army Chief Warrant Officer Will Tobin, emphasized the significance of the day: "Veterans Day is not only about gratitude; it's about remembrance and the responsibility we all share to support our veterans and build a community where they can thrive."

Approximately a dozen organizations from the Reading area participated by laying wreaths to commemorate the service and sacrifice of personnel across all branches of the military. Of course, members of the Reading Base placed a wreath at a memorial dedicated specifically to submariners who'd lost their lives in the line of duty, highlighting mutual deep respect for their contributions.

Following the ceremony, base members headed to Applebee's Grill for a complimentary lunch. The delightful mix of good food, good friends, and friendly, welcoming staff made it a truly memorable day.

Kris Kringle and *Cod*—A Cool Christmas Combo!

Santa gives thumbs up to onlookers as Cod Base member Leroy Imhoff waits to escort him aboard.

One chilly Christmas night in 1951, the freshly recommissioned USS *Cod* (SS 224) was moored at State Pier in New London, Connecticut. While many sailors enjoyed their Christmas liberty, some unfortunate souls remained on watch aboard the boat. To spread some holiday cheer, they invited a handful of local orphans for a delightful dinner, a tour of their underwater home, and a heap of presents—creating memories that light up subvet hearts to this day!

Base Commander Brian Tomasch welcomes Santa aboard the *Cod*.

Now fast forward seventy-four years: the historic *Gato*-class *Cod* now serves as a museum ship at Cleveland's North Coast Harbor, a mere stone's throw from the Rock & Roll Hall of Fame. Thanks to the spirited leadership of Brian Tomasch and the enthusiastic members of Cod Base, the boat's yuletide tradition remains as strong as ever, with a free Christmas party held the Saturday after Thanksgiving.

This year's festivities included Santa Claus himself making a grand entrance into the after torpedo room, ready for plenty of selfies! Kids and adults alike enjoyed hot chocolate and fresh-baked cookies in the crew's mess—on the very tables that had welcomed those orphaned children decades earlier.

The joy was contagious; smiles shone from dozens of youthful faces—and plenty of grown-ups, too! All soaked up the holiday magic, submarine-style. In fact, the celebration was such a success that a sequel is already on the calendar for next year—more cocoa, more cookies, and, of course, more Kringle! Standby to dive into more fun in the frosty air!

Torpedo tube gifts—just what these kids want—but could they keep the whole boat instead?

Santa and Brian Tomasch welcome kids aboard *Cod*.

Snook Base's Generosity Brings Food to Those Who Need It Most

Since 2022, USS Snook Base in Northwest Arkansas has spread holiday cheer year-round by teaming up with the Northwest Arkansas Food Bank to deliver food boxes to veterans in need. In March 2025, the spunky 86-member base kept the tradition alive with a generous $1,000 contribution, and in November, voted to add another $2,000—this time earmarked to provide Thanksgiving food for families who could use a little extra warmth at the table.

Right: A big check to help feed big, needy appetites. *Thanks, Snook Base!*

Thirty Degrees Toward Imminent Disaster

It was the summer of 1985, and we'd just received word that USS *Barb* (SSN 596) would soon be leaving for a six-month deployment to the Western Pacific. *Barb* wasn't anywhere near ready to go, and for the next six weeks, we worked feverishly to get the boat prepared to get underway. Along with everything else, we had four new crew members to train to stand engine room watches. This simply wasn't possible without some proper underway time before our scheduled departure. I wasn't happy: it meant six-on/six-off watches for me—little sleep till they were qualified.

We departed on schedule from Naval Base Point Loma in San Diego and spent the next two weeks crossing the Pacific Ocean to reach our patrol area.

On the seventh day, we were about 200 miles south of Hawaii, doing all the routine stuff—maintenance, training, eating, running drills, etc.—plus trying to catch up on sleep when we could.

So there I was, lying in my rack, reading and trying to relax, when I noticed the boat's bow start to dip. Soon the downward angle was becoming markedly steeper. As the angle increased, I thought, "Damn, why are we doing angles and dangles now?" Now the angle was steepening more, and I felt myself crushing against the head of my bunk. Something definitely wasn't right.

Suddenly, the sound a submariner never wants to hear: the bong, bong, bong, bong of the collision alarm…followed by a frantic announcement to *"Rig ship for flooding!"* Not good—we were now pointing downward about twenty degrees. Everyone else knew it was not good too—all were desperately running around in attempts to reach their duty stations. I worked hard at exiting my bunk, but the steep angle was making it a struggle.

When the down angle had reached about thirty degrees, I finally made it out of my bunk and hurried toward my own assigned station in the engine room.

The next 1MC announcement was, *"Reactor Scram."* We'd lost propulsion and were dead in the water, going down fast.

All I heard now was a loud, rapid pop-pop-pop-pop-pop—the sound of the hull compressing as we sank deeper and deeper. Reaching a forty degree down angle at this point, I figured I'd never make it to the engine room; I couldn't open the two 400-pound doors between it and me.

Men ran around, trying anything they could to save the boat. Others were so scared—shut down, crying, some calling for their mothers.

The next announcement stated there was no stern plane control—the planes aft were locked in the dive position with no hydraulics—meaning we couldn't change the angle to start ascending.

Now it all came down to Monty, whom I'd just qualified on his watch station the day before. He was standing his first watch on his own. One of the systems I'd tested his knowledge on was the emergency stern plane control located in shaft alley, and I was confident he'd know what to do under pressure.

Meanwhile, the hull-popping was much faster now as we continued to sink, and I truly started to wonder if we were going to make it.

But just a minute! Had something changed? Our down angle had become less steep, and the popping noise was slowing. Was the boat starting to level off? Yes—way to go, Monty! We were starting to flatten out. He'd done it!

Loud cheers erupted inside the sub. Then the angle came off more: thirty degrees, twenty degrees, ten, five! Soon we were bow-up and heading for the surface! Reaching the surface, with daylight now streaming through the periscope, everyone let out a huge sigh of relief.

The next two days were spent cleaning up hydraulic fluid spilled from the blown stern plane O-ring as we limped back to Hawaii for emergency repairs. We'd survived to sail another day and complete our deployment.

It was a submarine experience I'll certainly never forget.

Jim Bazemore
Bowfin Base

Waves Making Waves

In the spring/summer of 1973, I was aboard USS *Archerfish* (SSN 678) operating in the Mediterranean Sea. When we pulled into Naples for a brief upkeep, my last rated quartermaster was transferred for discharge. I had been training ETs as QMOW watch standers and needed rated or quartermaster strikers to stand QM watches.

At the Naples EM club, a shipmate and I were having dinner and drinks when we noticed two QM Seaman Waves having dinner with their boss, an LCDR. I went over to their table, introduced myself, explained my shortage of QMs, and, as a prank, suggested we could have them transferred to the SSN. Everyone agreed it would be a good prank, and my friend and I said we would generate the dummy orders and get them to the two Waves in about two days. When I gave them the dummy orders, I told them to report aboard two days later while I was duty chief.

Like clockwork, two days later they showed up in their snappy dress uniforms, with sea bags in tow, and reported to our topside watch. He called me topside, and we reviewed their orders and called the duty officer and XO topside. The XO had me escort the Waves to the crew's mess for lunch, and he said he would try to resolve the situation. I let the joke run for a couple of hours, then told the XO it was only a prank. He took it well and laughed.

Got a Good Sea Story?

American Submariner wants to hear your personal submarine experiences. Not tall tales, but real trials and tribulations; lots of laughs or taut with tension, we want it all. Email your best sea stories to editor@americansubmariner.org, and put "This ain't no sh*t!" in the subject line.

However, within about three or four hours, there were many, many calls from dependent wives in the U.S. saying that their husbands were..."*not going to go to sea with women on board!*"

I didn't receive any rated quartermasters until we returned to Groton. But we sure had many laughs and stories about this lighthearted effort!

Jerry Emerson
Old North State Base

Sink or Swim? Offshore Oahu Makes a Great Instructor

It was November, 1961. I was in boot camp in San Diego, California, learning how to be a sailor. One of the requirements for graduation was the ability to swim. Today was test day. The test was to swim twice the length of the Olympic-sized pool. I couldn't swim a stroke, but trusted the instructor when he told me to relax, I'd float to the surface with enough buoyancy to keep my face above water. I was then to float on my back and do the "survival backstroke." Holding my breath, I jumped into the deep end and promptly sank to the bottom like a rock. Still expecting to float to the surface, I instead found myself standing on the bottom looking up at the shiny ripples above. Several long seconds passed before the instructor, realizing my predicament, extended a long pole to me; I grabbed it, and was pulled to the surface, gasping.

I had flunked the swimming test.

As a result, I was assigned EM1 (extra military instruction)—consisting of about one hour a day—to be completed during "free time." After repeated training sessions, I was finally able to backstroke the required distance. Barely.

Fast forward to 1964. I'm now aboard the diesel submarine USS *Barbel* (SS 580) at Pearl Harbor. One day, two shipmates and I went to the North Shore of Oahu to relax, swim, and surf. The water was warm and crystal clear, but my swim skills hadn't improved. I'd bought a mask, snorkel, and some swim fins, thinking the fins would help me stay afloat, which they surprisingly did. My buddies were off body surfing, leaving me to familiarize myself with my new toys. I was floating, watching the fish and absorbing the underwater beauty, casually kicking my fins, unaware I was in a gentle current pulling me out to sea and deep water!

Glancing back to look at the beach, our car had become a tiny dot on the distant shore! Next stop would be California! So here I was, barely able to swim, alone and at least a mile from land. Immediately shifting into full panic mode, I propelled myself as swiftly as I could toward shore. (Who knows, I may've even broken some speed records!) Exhausted but safe, I had suddenly become a confident swimmer, no longer afraid of the water, and would spend many enjoyable hours snorkeling in the ocean around Oahu in the days to come.

Chris G. Stromberger
Member at Large

Chow's Got You Covered

In 1975, I was the supply officer aboard USS *Bergall* (SSN 667). We had recently completed a year-long overhaul and traveled to Roosevelt Roads Naval Station in Ceiba, Puerto Rico, for some post-overhaul testing. After we'd tied up, the topside watch called down to the wardroom to say that Smiley H. Chow was asking for the captain. While the CO went topside to meet Mr. Chow, the rest of us bantered about who this Mr. Chow might actually be. Once the captain returned, he indicated that Mr. Chow was with the Navy League and had extended an invitation for the CO, XO, and any others not on duty the next evening to join him for dinner at his condo in San Juan. When the captain then departed, wardroom discussion continued with speculations on Mr. Chow's origins and intentions.

The next evening, six officers, including myself, arrived at Mr. Chow's San Juan address. Entering the building, the doorman announced that Mr. Chow lived in the penthouse on the top floor. We all looked at each other, hesitating, then proceeded up by the elevator. Mr. Chow greeted us warmly and introduced his wife. As we moved en masse into the living room, the photos on the far wall made us stop collectively in our tracks. The center one was of Chiang Kai-shek surrounded by about a dozen top advisors—including Mr. Chow. Other photos featured U.S. Presidents and Navy admirals, one including the caption, "Best Wishes to Smiley." Perhaps needless to say, we all suddenly felt quite humbled to be in his presence.

Over dinner, Mr. Chow shared his story. As the Nationalists were losing their struggle with Mao's Communists in 1949, Chow fled China to Japan on a U.S. Navy ship. During the United States postwar occupation of Japan, he had served as a middleman between U.S. PXs and vendors, making a considerable living. He later relocated to Puerto Rico for his wife's health, and became involved with the Navy League out of gratitude for the Navy's assistance when he'd fled China. We also learned that his family had once actually served Chinese Emperors, and after dinner, he showed us a magnificent, museum-quality collection of ivory and jade presented to them for their service to those Emperors.

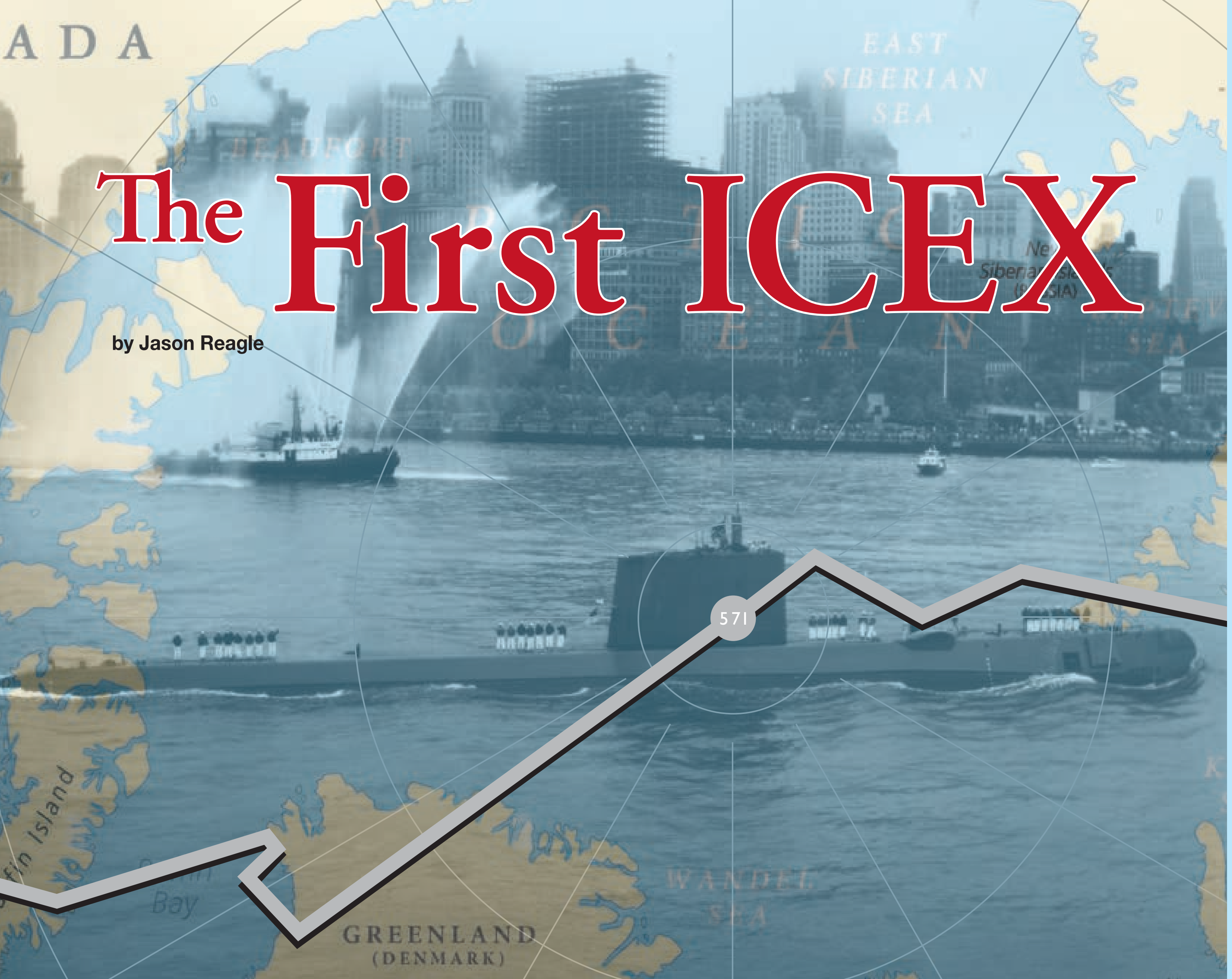
Obviously, we all shared quite an interesting discussion on the road back to the boat that evening.

At that time, Mr. Chow still owned a clothing business in Hong Kong, and over our dinner had offered to drive to Roosevelt Roads the next day to take any orders for dress uniforms. Once we got back to the boat, we spread the word. So there he was the next afternoon, literally on the mess deck, taking measurements and orders for several officers and chiefs. For myself, I ordered a nice suit—which I was married in a year later. Many thanks, Mr. Chow.

Tom Butcher
Rhode Island Base

The First ICEX

by Jason Reagle



USS *Nautilus* (SSN-571) was the world's first operational nuclear-powered submarine and the first vessel to complete a submerged transit across the North Pole. The *Nautilus*'s revolutionary nuclear plant enabled the boat to remain submerged for significantly longer than a diesel submarine, ushering in a new era in submarine operations.

A Historical Journey by USS *Nautilus* (SSN 571)

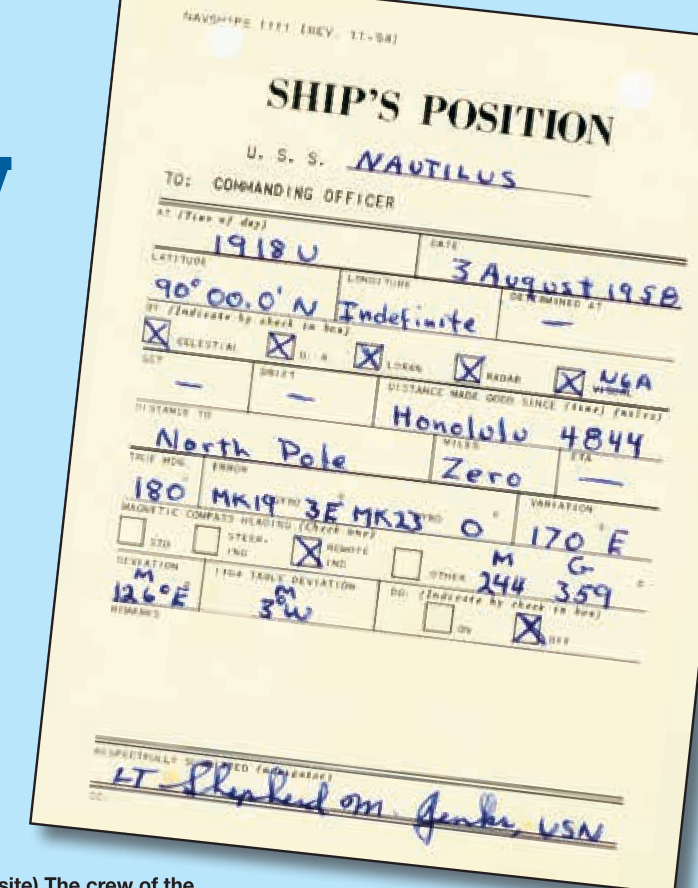
On December 12, 1951, the Navy announced that the first nuclear-powered submarine would be named USS *Nautilus* (SSN 571), the sixth ship of the fleet to bear that name. Her keel was laid by President Harry S. Truman at the Electric Boat Shipyard in Groton, Connecticut, on June 14, 1952. Under the leadership of then-Captain Hyman G. Rickover, known as the "Father of the Nuclear Navy," construction of *Nautilus* hinged on the successful development of a nuclear propulsion plant by a team of scientists and engineers at the Naval Reactors Branch of the Atomic Energy Commission. *Nautilus* was powered by the S2W naval reactor—a pressurized water reactor produced for the U.S. Navy by Westinghouse Electric Corporation.

Nautilus was launched into the Thames River on January 21, 1954, after eighteen months of construction. First Lady Mamie Eisenhower broke a traditional bottle of champagne across *Nautilus*'s bow, and the submarine became the first commissioned nuclear-powered ship in the United States Navy. At 11 a.m. EST on January 17, 1955, the submarine's first commanding officer, Commander Eugene P. Wilkinson, ordered all lines cast off and sent the memorable and historic message, "Underway on Nuclear Power." Over the next several years, *Nautilus* shattered all submerged speed and distance records.

After preliminary acceptance by the Navy on April 22, 1955, *Nautilus* headed south for shakedown on May 10, 1955. She remained submerged en route to Puerto Rico, covering 1,381 miles in 89.8 hours and immediately setting submerged endurance and speed records. In July and August, she conducted rigorous exercises with hunter-killer (HUK) groups in Narragansett Bay and off the coast of Bermuda. She finished the year by visiting East Coast Navy bases, conducting a series of torpedo firing tests, and participating in Bureau of Ships standardization trials.

Over the next year, the submarine served as a test platform based in New London, investigating the effects of significantly increased submerged speed and endurance on anti-submarine warfare (ASW) practices. These changes in submerged mobility rendered contemporary ASW techniques obsolete. Aircraft and surface radar, which helped defeat diesel-electric submarines during World War II, proved ineffective against a submarine that did not need to surface, could dive to greater depths, and could clear a search area in record time. Between exercises, *Nautilus* conducted press tours for luminaries such as Edward R. Murrow's *See It Now* program and hosted distinguished visitors from the Navy and Congress.

On February 4, 1957, *Nautilus* logged her 60,000th nautical mile, matching the endurance of the fictional *Nautilus* described in Jules Verne's novel *20,000 Leagues Under the Sea*. In May, she departed for the Pacific Coast to participate in coastal exercises plus the fleet exercise operation "Home Run," which acquainted units of the Pacific Fleet with the capabilities of nuclear submarines.


NAVSHIPS 1111 (REV. 11-58)

SHIP'S POSITION

U. S. S. NAUTILUS

TO: COMMANDING OFFICER

AT (Time of day) 1918 U — DATE 3 August 1958

LATITUDE 90° 00.0' N — LONGITUDE Indefinite — DETERMINED AT —

BY (Indicate by check in box) ☒ CELESTIAL ☒ D.R. ☒ LORAN ☒ RADAR ☒ VISUAL

SET — DRIFT — DISTANCE MADE GOOD SINCE (time) (miles) Honolulu 4844

DISTANCE TO North Pole — MILES Zero — ETA —

TRUE HDG. 180 — ERROR MK19 GYRO 3E MK23 GYRO 0 — VARIATION 170 E

MAGNETIC COMPASS HEADING (Check one) ☐ STD ☐ STEER. IND ☒ REMOTE IND ☐ OTHER M 244 G 359

DEVIATION M 126°E — 1104 TABLE DEVIATION M 3°W — DG: (Indicate by check in box) ☐ ON ☒ OFF

REMARKS

RESPECTFULLY SUBMITTED (navigator)

LT Shepherd M. Jenks, USN

CC:

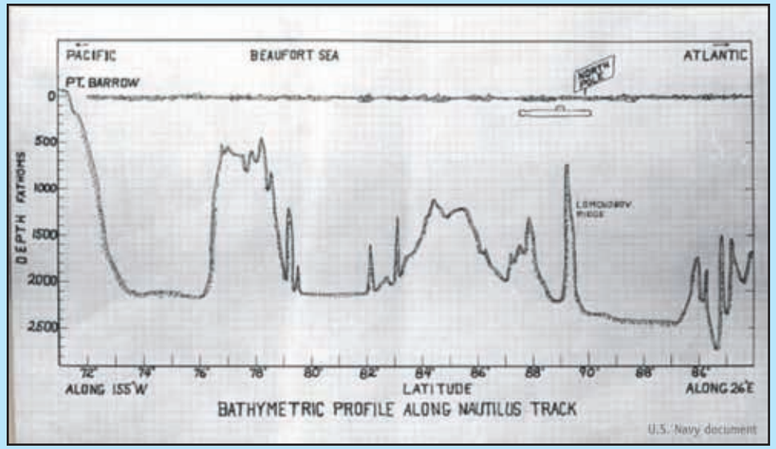
(Opposite) The crew of the USS *Nautilus* (SSN 571) stand quarters for muster as she enters New York harbor. One of many tugs displays her greeting with the New York skyline in the background. *Nautilus* had recently made the transpolar voyage under the arctic ice.

(Above) The original ship's position report, filled out by *Nautilus*' navigator Lieutenant Shep Jenks in blue ink, was later rewritten in official black ink. Jenks kept this copy until his death in 2014, after which his son donated it to the U.S. Navy Submarine Force Museum in Groton, Connecticut.

The acclaimed boat returned to New London on July 21, 1957, but departed again on August 19 for her first voyage of 1,202 nautical miles under the polar pack ice. Then she headed for the Eastern Atlantic to participate in North Atlantic Treaty Organization (NATO) exercises and to visit various British and French ports, where she was inspected by defense personnel from those countries. She returned to New London on October 28 for maintenance, then conducted coastal operations until spring.

The Importance of Operation Sunshine

The Soviet Union launched Sputnik, its first space success, on October 4, 1957, and the event was soon followed by heightened tensions between the Soviets and the United States. The Eisenhower administration immediately came under public criticism for failing to grasp the psychological significance of the space race. Eisenhower needed a way to demonstrate that the United States was a technological powerhouse. What followed was one of the most humiliating moments in American history, as government scientists failed to launch their hurried response to Sputnik, a satellite and rocket called Vanguard. The first Vanguard launch failed four feet off the launch pad on December 6, 1957, a disaster broadcast worldwide. In the aftermath, Soviet delegates to the United Nations asked their American counterparts whether the Soviet Union's third-world aid



Ocean bottom profile taken along the track of the USS *Nautilus* during transpolar voyage.

program was needed to help the U.S. put its space program back on track.

President Eisenhower's naval aide, Captain Evan Peter Aurand, briefed the president on what he had learned about an under-ice expedition in September 1957, during which *Nautilus* had nearly reached the pole. Using her underwater capabilities, the submarine had traveled several hundred miles inside the Arctic ice pack. The purpose was to identify an effective method for a submarine to transit under the ice.

In a chance meeting at the Pentagon in late 1957, Captain Aurand spoke with Captain William R. Anderson, commander of the *Nautilus* during her trip under the ice. Aurand knew the White House staff would want to hear more of the story, so he invited the *Nautilus* skipper to attend a staff meeting and brief them on the details. Anderson's account sparked keen interest in White House Press Secretary Jim Hagerty.

The primary objective was, without a doubt, political; however, the ancillary benefit of scientific information and data was both planned and expected. Captain Anderson captivated the staff with a stirring story. Captain Aurand recalled: "Everyone was very interested, particularly Jim Hagerty. Jim and I were both interested in doing something that would take the sting out of the Sputnik scare. We sought some technological advancement that the United States could make."

Hagerty wanted a vehicle to change that perception and to reestablish a lead over the Soviets. He asked Anderson, "Is it possible for *Nautilus* to cross the Arctic from the Pacific to the Atlantic?"

Anderson was certain that adding new gyrocompasses, additional navigational aids, and meticulous planning could counter the factors that led to difficulties during the submarine's first voyage into the ice pack. Both Aurand and Hagerty were smiling broadly as Anderson left the White House. Anderson, recalling his conversation with the president, said, "I told the president about it. He thought it would be a great thing to do. He asked me to see if Admiral Arleigh Burke thought it was all right. So, I went over and saw him."

However, Captain Aurand soon encountered resistance and found that carrying out the operation would require some cajoling and finesse. Admiral Burke initially ordered a feasibility study by a small, select group within the Navy. The study group, like Anderson, concluded that they should move forward with the mission. Captain Aurand then proposed to President Eisenhower that *Nautilus* attempt the trip the following summer of 1958. The White House then issued orders to execute what was to become "Operation Sunshine," a mission name that implied a trek to southern climates.

Control room watch underway aboard *Nautilus* during her 1958 transpolar voyage.

Why the Secrecy?

Operation Sunshine was so secretive that a story of a routine Pacific cruise was fabricated for *Nautilus* and her crew. To explain the submarine's appearance on the West Coast, a cover story was created about a series of anti-submarine exercises intended to familiarize military ships and aircraft with a nuclear submarine.

The operation became known as the most top-secret peacetime naval operation in history for two reasons. First, while proceeding through the Bering Strait and well removed from the territorial waters of the Soviet Union, *Nautilus* might come near areas of Soviet submarine operations. Second, after the Vanguard debacle and its fallout, White House officials preferred to attempt the voyage first and wait for success before making any announcements. As such, few people within the government were privy to the plans for *Nautilus* as the summer of 1958 approached.

Operation Sunshine was first and foremost a White House mission intended to enhance the United States' image domestically and internationally. *Nautilus*'s crew remained in the dark about their true destination as the boat left Groton, Connecticut, on April 25, 1958.

Arctic Challenges

In *Nautilus 90 North*, Captain Anderson's memoir of the *Nautilus*'s first polar voyages, he wrote that the ice covering the Arctic Ocean is not a solid layer, but "composed of huge chunks and floes, varying greatly in size and thickness, grinding one upon the other, creating the effect of a solid mass." Since it was known that an ice floe collision could easily destroy a submarine, Dr. Waldo Lyon, a Navy scientist, had already developed an onboard device that could help avoid such hazardous encounters. Sonarman First Class Al Charette described the invention as a sort of inverted depth sounder, or fathometer: "Instead of sounding toward the bottom, with the transducer on the bottom of the ship, the transducer was on the top of the ship, looking up at the bottom profile of the ice."

Northern latitudes understandably pose the most difficult navigational challenge a sailor can encounter: as a ship nears the pole, its magnetic compass—always oriented toward magnetic north rather than the geographic one—soon becomes useless. To remedy this, a gyrocompass, with its core aligned to true north, measures deviations from that axis to perform more reliably. However, it also behaves erratically as it nears true north, as east-west meridians converge on the pole. Captain Anderson, in his memoir, wrote: "At the North Pole, every direction you face is south," describing that situation as "longitude roulette." *Nautilus* would have to wait until 1958 to receive a strategy that would help her to avoid such a dangerous game of navigational chance.

Brought aboard in April of 1958, the inertial navigation system was the most useful piece of equipment in *Nautilus*'s onboard guidance arsenal. North American Aviation had designed the device for use in the Air Force's winged Navajo missile, which had recently been discontinued in favor of the Atlas Intercontinental Ballistic Missile (ICBM). Unlike any other navigational aid then in use, this new technology operated independently of any reference point except the vessel's initial position. An elaborate set of sophisticated internal mechanisms and electronics calculated the direction and distance of every movement and rotation of the boat. The inertial navigator thus created a virtual map of *Nautilus*'s voyage from start to finish.

At first, Anderson was skeptical of the inertial navigator, although admittedly impressed with its technology. "It was the first time such a system had ever been used in a ship, and as you would guess, a lot of debugging had to go on, and a lot of workup."

First Attempt at Operation Sunshine

In her first attempt to complete Operation Sunshine, *Nautilus* departed Seattle for the polar ice pack on June 9, 1958. Only then was the crew told of their mission's destination. A machinist's mate, Bill McNally, remembers Anderson's announcement to the crew stating they were headed home to New London. "But the captain turned right instead of left. He said we were going home by way of the North Pole, and that's when we learned we were actually going to do it." As Captain Anderson made their surprise route known, Sonarman Charette recalled, "One of the terms he used was that our job was to out-Sputnik the Russians."

Believed to be the most direct route, the boat's intended path would take *Nautilus* north through the Bering Strait, west around the Siberian side of St. Lawrence Island, and on into the Chukchi Sea—a shallow, 400-mile expanse which would ultimately deliver her to the Arctic Basin. However, in early June, the ice there was simply too hazardous for *Nautilus* to navigate. One large floe lay a full thirty feet below the surface, offering only twenty-five feet of submerged clearance above and forty-five feet below—limiting enough to give the crew pause, and presenting Captain Anderson with a difficult dilemma: if thicker ice should be encountered, the boat couldn't make the passage at all. Was it worth the risk to continue? The captain soon decided to turn back and live to continue his journey another day. *Nautilus* now navigated south and east toward the Alaskan side of St. Lawrence Island, carefully threading through the Strait in waters so shallow she could only edge around the ice rather than go under it. Eventually, she safely entered the Chukchi Sea. Once there, a mile-long ice floe newly in her path projected more than sixty feet beneath the surface: *Nautilus* cleared it by a mere five feet while moving submerged at a virtual crawl. Anderson recalled in *Nautilus 90 North*, "I waited for, and honestly expected, the shudder and jar of steel against solid ice." Realizing this initial effort had failed, the submarine's only way home now was south.

Dr. Waldo K. Lyon (left) and Commander Anderson monitor reports on special ice-detection equipment installed aboard *Nautilus* prior to her polar voyage.

Second Attempt—Success

Nautilus departed Pearl Harbor on July 23, 1958. At 11:15 p.m. on August 3, Captain Anderson announced to his crew, "For the world, our country, and the Navy—the North Pole."

With 116 men on board, *Nautilus* had accomplished the "impossible," reaching the geographic North Pole—90 degrees North.

Submerging in the Barrow Sea Valley on August 1, on August 3 at 11:15 p.m. she had become the first ship in history to reach the geographic North Pole. It would be two more days before the sub surfaced northeast of Greenland and transmitted her historic message to the outside world: "Nautilus 90 NORTH."

In his memoirs, Captain Anderson recounted: "There was no doubt in my mind that *Nautilus* could penetrate the ice safely and efficiently from the Greenland-Spitsbergen side of the pack, as we had done in 1957. The water there was quite deep. I knew that the really formidable problem lay on the other side, in the Bering Strait and the Chukchi Sea, a small body of water between the Strait and the Arctic Ocean."

"Viewed from the top of the world, this area resembles a huge funnel, with the spout—the Bering Strait—lying to the south. There, the ice is far more irregular and hazardous than that on the Greenland side. Blown southward against the funnel's walls, represented by Alaska and Siberia, the ice 'chokes up' at the narrow mouth. In fact, it jams, layer upon layer, against these rugged coastlines, and as a result, is far thicker than the ice near the North Pole. To make matters worse, the waters of the Strait and Chukchi Sea are quite shallow, averaging no more than 120 feet, which is too shallow for ordinary submarine operations. If a submarine in those waters encountered deep-hanging ice, it might not be able to get beneath or around it. It would be a hair-raising problem of threading through dangerous ice, seeking out the few deeper ocean-floor valleys that lead northward in the Arctic Basin."

"From a purely operational standpoint, the question was whether a submarine could navigate this track in the face of possible poor weather and navigational errors. There would be few feet to spare in either direction. Yet it could be done. I was certain of that. And I said so."

In a worst-case scenario, Captain Anderson considered using torpedoes to blast a hole in the ice if *Nautilus* needed to surface.

Commander William Anderson (seated) checks navigation charts with the navigator, Lieutenant Shep Jenks.

"In order to ensure that all gyrocompasses remained properly oriented, we made all course, speed, and depth changes extremely slowly. For example, when we came near the surface to decrease water pressure on the hull, we rose with an angle of one or two degrees, instead of the usual twenty to thirty degrees. So gradual was the shift that six minutes elapsed before settling on a new heading. Somebody jokingly suggested that when they neared the Pole, they might put the rudder hard over and make twenty-five tight circles, thus becoming the first ship in history to circle the earth nonstop twenty-five times."

After crossing the Pole, Captain Anderson made his way to the crew's mess to join the North Pole Party in joyous progress. His first act was to pay a modest tribute to the man who had made their historic trip possible: President Eisenhower. A few minutes earlier, Anderson had written the president a message which had concluded: "I hope, sir, that you will accept this letter as a memento of a voyage of importance to the United States." In the mess, before seventy crew members, the captain signed the letter and one to Mrs. Eisenhower, who had christened the ship.

The Effects

Nautilus completed her first successful voyage across the North Pole and then continued for ninety-six hours and 1,830 miles under the ice before surfacing northeast of Greenland.

From there, as recalled by Captain Anderson, events moved more swiftly than either he or his crew could absorb at the time. The captain boarded a helicopter off the coast of Iceland and headed toward Washington, reporting there directly to President Eisenhower. The exhausted sub commander then presented the president with his historic memento letter and gifted Mrs. Eisenhower with the boat's clocks, which were stopped at the exact moment *Nautilus* had crossed the pole.

Next, accompanying the president to an adjoining press conference, Anderson was on hand when news of the trip was released to an eager media crowd. It was there that Eisenhower took great pride in awarding the Presidential Unit Citation to *Nautilus*'s officers and crew—the first time the honor had ever been awarded to a naval vessel in peacetime. Anderson, for his part, was also awarded the Legion of Merit. All *Nautilus* crew members who'd made the voyage were authorized to wear their Presidential Unit Citation ribbons with a special clasp in the form of a gold block letter "N" to commemorate the first submarine voyage beneath the North Pole.

Before even having time to reflect on these events, Anderson was whisked away to rejoin his boat before her arrival in England. He'd had a taste of the attention the world was about to shower on his submarine, but the men aboard her were still in the dark. Upon reaching England, Al Charette, sonar supervisor for the successful Arctic voyage, said, "We were met by the press and by hundreds of people at the pier." It would take years for Charette and the rest of the crew to realize the impact of what they'd accomplished: "What we were supposed to have done was open up a new sea route, and we did that, but the commercial world never made any use of it." In fact, though, much was made of the voyage's practical implications at both the White House press conference and in a lead story in the *New York Times* the following day. Anderson spoke of the potential for cargo submarines to use the Arctic route, and the press secretary pointed out that the standard London-to-Tokyo distance—11,200 nautical miles via the Panama Canal—had just been reduced by nearly 5,000 miles. Today, however, the Arctic remains too dangerous for the private shipping industry to allow the successful exploitation of this unique transit route.

Unlike the taunting delivered by Soviet diplomats at the United Nations after Sputnik's success, Eisenhower, Anderson, and everyone else associated with *Nautilus*'s triumph preferred to leave the true implications of her transpolar voyage unspoken. Still, this navigational sea change was certainly not lost on the Soviets. Charette notes, "Knowing…we could operate it [*Nautilus*] safely under the ice, it was known that a Polaris submarine could operate safely under the ice. Without an equivalent submarine, there was no way to go in and find that guy…. So we could be right in their backyard, and there was nothing they could do about it."

Regardless, though stunned by *Nautilus*'s breakthrough, the Soviet Union wasn't exactly caught flat-footed. Four years later, their first nuclear submarine, the *K-3*, would surface at the North Pole, reestablishing their submarine fleet as a global player and neutralizing the United States' strategic advantage in the Arctic.

After leaving England and quietly setting a speed record for a submerged Atlantic transit, *Nautilus* and her crew were saluted in New York Harbor by a noisy fleet of tugboats and fireboats—"absolutely overwhelming," by Captain Anderson's description. Afterward, approximately 20,000 visited the New York Naval Shipyard in Brooklyn to inspect this nuclear-powered paragon during her public display there. Her crew received a ticker-tape parade through downtown Manhattan—and a police-estimated crowd of 250,000 lined Broadway from Bowling Green to City Hall to watch.

Anderson later found himself pictured on the cover of *Life* magazine as well. While proud of the achievement, he said he was uneasy about becoming a figurehead for the polar trip. "I served a long time in submarines, and under many different circumstances, and I was prepared for just about any situation a submarine guy could confront, but I was totally unprepared for the aftermath of the polar trips. I dealt with it the best I could, at the same time feeling—as I still do—a certain resentment for the human tendency to concentrate attention and fame on the guy in charge, when, in this case, more than most anything I can imagine, it took the superb work of a crew of 115 to get the job done…. I've always had that feeling of discomfort at how difficult it is to get the credit shared where it should go: to all hands."

Postscript

In 1964, Anderson entered the Democratic primary in Tennessee to replace Sixth District Congressman Ross Bass, who was running for the United States Senate to finish the term of the late Estes Kefauver. Anderson won both the nomination and the subsequent general election. And he was reelected three times.

For the remainder of 1958, *Nautilus* operated from her homeport in New London. In May 1959, she entered Portsmouth Naval Shipyard in Kittery, Maine, for her first complete overhaul. This marked the first such work on any nuclear-powered vessel and the replacement of her second fuel core. Upon this overhaul's completion in August 1960, she departed for refresher training, then deployed to the Mediterranean Sea to become the first nuclear-powered submarine assigned to the U.S. Sixth Fleet.

Over the next six years, *Nautilus* participated in several fleet exercises while steaming more than 200,000 miles. In the spring of 1966, she again entered the record books by logging her 300,000th mile underway. Over the following twelve years, the submarine was

Officers gather on the bridge of *Nautilus* during a search in shoal waters for a place deep enough to safely submerge under the ice.

involved in a variety of developmental testing programs while continuing to serve alongside many of the more modern nuclear-powered submarines she had preceded.

In the spring of 1979, *Nautilus* set out from Groton on her final voyage. She reached Mare Island Naval Shipyard in Vallejo, California, on May 26, 1979, her last day underway. She was decommissioned on March 3, 1980, after a career spanning twenty-five years and more than half a million miles steamed.

In recognition of her pioneering role in the practical use of nuclear power, the Secretary of the Interior designated *Nautilus* a National Historic Landmark on May 20, 1982. Following an extensive historic ship conversion at Mare Island Naval Shipyard, she was towed to Groton, arriving on July 6, 1985. On April 11, 1986, eighty-six years to the day after the birth of the Submarine Force, the historic ship *Nautilus*, joined by the Submarine Force Museum, was opened to the public as the first and finest exhibit of its kind in the world, providing an exciting, visible link between yesterday's Submarine Force and the Submarine Force of tomorrow.

Mr. Reagle was an associate editor for *Undersea Warfare* magazine. He now practices law in Pennsylvania.

The First Icex originally appeared in the Summer 2009 issue of *Undersea Warfare* magazine.

U. S. S. NAUTILUS (SSN-571)
Care of Fleet Post Office
New York, New York

SS(N)571/os
3 August 1958

Honorable Henry M. Jackson
United States Senate
Washington, D.C.

Dear Senator Jackson:

At Admiral Rickover's request I am writing to tell you of the transpolar voyage of the U.S.S. NAUTILUS. On 3 August 1958 we crossed the North Pole submerged beneath the Arctic ice pack on our way from Pearl Harbor to Europe. This is the first time in history that any ship has transited from the Pacific to the Atlantic via the polar route. It is also the first time in history a ship has reached the North Pole.

Knowing of your keen interest in nuclear power and in the Arctic regions I hope you will accept this letter as a memento of a trip of great significance to the Navy and to the United States.

This letter was signed at the North Pole.

Very respectfully,

W. R. ANDERSON
Commander, U.S. Navy
Commanding Officer

In 2008, USS *Providence* (SSN 719) surfaced at the North Pole to mark the 50th anniversary of the first ship to cross the North Pole, accomplished by *Nautilus* on August 3, 1958.

Unlucky In June: *Hiyō* Meets *Trigger*

by Edward L. Beach

In June, 1944, USS Trigger (SS 237) sent four torpedoes into the Japanese carrier Hiyō in Tokyo Bay. Trigger's crew believed they'd sunk her, but years later, Captain Takeo Yasunobu, who'd been aboard at the time, wrote that the carrier had limped back to Yokosuka under her own power. She was repaired and did go to sea again. Later that same month, however, she was sunk by submarine and aircraft torpedoes in the Battle of the Philippine Sea.

The roar of exploding torpedoes and the hull-crushing pounding of depth charges form the obbligato against which the following narrative is laid. The year was 1943, the day June 10th; the place Tokyo Bay; the antagonists a Japanese Carrier Task Force and a U.S. submarine. To both Japanese and Americans the battle came suddenly, without warning, and to both it brought near disaster.

In war, as in argument, there is your point of view—and the other fellow's. During the heat and tension of conflict the other side of the story is remotely appreciated, if at all; but afterward, upon infrequent occasion, the participants may have the good fortune to exchange views. And rare, in such a case, is the individual who finds it unnecessary to change at least some of his ideas.

Three years ago I received a letter from a Japanese gentleman, employed at the time as a civilian in a U.S. occupation base in Japan, who styled himself "Ex-Captain, Imperial Japanese Navy." Fourteen years ago he and I were pitted intimately against each other in battle; he as chief of staff to the admiral commanding a carrier division; I as engineer officer of the submarine which attacked the division flagship. The outcome was a victory for the submarine—we heard four torpedoes explode into the carrier; but it was not a conclusive outcome, for she was salvaged. Nor was it aneasy one.

The following combined narration is the joint product of Captain Takeo Yasunobu, Imperial Japanese Navy, from his original and subsequent letters; Mr. Roger Pineau, historian and Japanese scholar who researched the official records of both navies for additional data; and the official war patrol report of the USS *Trigger*. Our skipper at the time, as of this writing about ready to put on the uniform of a rear admiral, USN, has also kindly checked the facts as given herein against his own recollections. We believe this is the story of what actually happened:

On the last day of April, 1943, USS *Trigger* (SS 237), Lieutenant Commander R. S. Benson in command, departed Pearl Harbor bound for Tokyo Bay on her fifth war patrol. The voyage was uneventful except that en route we suffered a severe engine casualty which damaged the crankshaft of one of our four main engines. Though we put the engine back together for emergency use, we knew it would not last long if called upon. Its loss reduced our surface speed and our battery-recharging capacity, and as our last day on station came around our score for 29 days off the enemy capital was only one ship sunk and two more damaged. In addition, we had withstood a most professional depth-charging by a freighter which must have had a crew of anti-submarine experts.

It was this 30th day which became the red-letter day of the patrol. The events which led up to it, we now know, had begun nearly three weeks earlier, eleven days after we entered our assigned area.

At 1005 on the morning of the 21st of May, we sighted two modern destroyers, some small planes, and what looked like the upper works of a large ship far over the horizon headed for Tokyo. According to our patrol report, Benson was sure in his own mind that the big ship could be nothing less than a first-line aircraft carrier. We watched closely for indication of a change of course which might bring us an opportunity to attack, but none was forthcoming. In disappointment we saw the enemy warships go out of sight.

On the next day, the 22nd, an appreciable segment of the main Japanese battle fleet zigzagged before our periscope into Tokyo Bay. Numerous planes crisscrossed the sky and destroyers patrolled the flanks and van. But this time we were successful in reaching an attack position—and feeling horribly alone, dreading that our black underwater shape might be spotted by one of the antisub planes overhead, we slipped under the milling escort vessels. From my station at the diving panel, directly beneath the hatch leading from control room to conning tower, I could see the captain's feet and by remote awareness remain in touch with the situation topside. They were so many, we so few; my belly was a tense knot of readiness as we penetrated the screen.

A heavy cruiser crossed our bow at moderate range—a fair shot. We made ready the bow tubes, and I prepared to fight for depth control as we fired. But coming up astern of her were three battleships in column with an aircraft carrier. If they zigged right, or not at all, or moderately to the left, we would have something really big to shoot at. We played for the big stakes.

The cruiser passed unaware. The big ships were coming up—and then came the zig: hard left. Our skipper watched helplessly as the battleships and the carrier counter-marched away from us, leaving only an empty ocean and a light, receding haze on the horizon.

That night we burned up the airwaves with an operational priority message for ComSubPac. No doubt he and Admiral Nimitz would be interested in the concentration of fleet units in Tokyo.

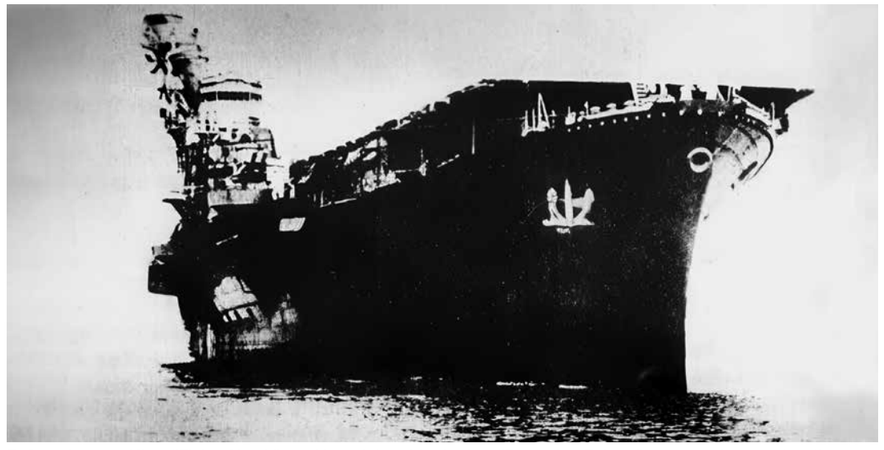
Two and a half weeks passed, and the time was forty minutes after midnight on the morning of the 9th of June. We were rolling rather heavily in a choppy sea off the harbor, recharging our batteries, when our radar showed a contact. We stopped the battery charge—this might be regretted if the ensuing action wound up in a long submerged evasion—put our three good engines on propulsion and took off to develop the contact. In the dusky moonlight we could not quite make out the enemy, but it was soon evident that there was at least one large ship, maybe two. There were also several small ones, and our plot soon informed us that they were making high speed. Careful scrutiny of the distant silhouettes as they came closer disclosed the flat, horizontal outlines of two aircraft carriers.

Admittedly this was not the kind of emergency we had anticipated; our bad engine vibrated and knocked with violent abandon, but we ran the throttle up to the full power setting and avoided dwelling upon what might happen if the unbalanced stresses snapped the crankshaft. The enemy ships were zigzagging, their speed plotted at twenty-three knots. We were well to the southeast of the enemy track, but they were running east, and despite our lower speed, we slowly gained in bearing. If the bad engine would only hold out—it held. With all engines wide open, salt spray whipping our bridge and exposed faces, we edged into position, sharp on the bow of the task force. Benson steadied for a final radar range and bearing. There would be but a single chance to attack, and it had to be good, for we would never be able to overtake the task force in a stern chase. Besides, the destroyers would be having their turn, and we would most likely be in no condition to pursue.

But again we were to fail our objective. We had started to turn to the attack course when plot informed Captain Benson that the targets had made a radical course change to the south. Instead of nearly in front, we were suddenly well abaft their beam. Had we made no effort at all to close the track, the task force on the new course would have come right by us.

For an hour we pounded along, far out on the beam of the enemy and losing ground every minute, hoping that chance would send them back toward us. But the carriers' speed advantage left us rapidly astern, and when they finally turned back to the north we had fallen too far behind.

In addition to the engine, we had been having more troubles as the patrol drew to a close. Our main storage battery, the ship's only source of power while submerged, had been in continual combat service during the sixteen months since our ship had been commissioned; though its peacetime life should have been well over two years, it had already begun to show a loss in vital capacity. This meant that our submerged endurance was lowered and our charging time increased.



Before the war, *Hiyō* ("Flying Hawk") and her sister ship *Jun'yō* ("Peregrine Falcon") were under construction as the passenger liners *Izumo Maru and Kashiwara Maru*, respectively. However, both were purchased by the IJN in 1941 while still under construction and converted into aircraft carriers. In June 1943, *Hiyō* was torpedoed and thought sunk by *Trigger*, but she survived and was later sunk during the Battle of the Philippine Sea.

Of even greater immediate importance, our air compressors had developed a tendency to break down during this patrol. Many times we had been forced to dive in the morning without a full charge of compressed air. Soon, we knew, the compressors might cease to function at all, and without compressed air a submarine cannot surface, cannot shoot torpedoes, cannot start its diesel engines, and, by extension, cannot dive. The thought was not a happy one.

We were due to leave Tokyo at sunset on the 10th of June after thirty days on station. *Trigger* badly needed overhaul, and we were ready to go.

Sunset on the 10th would have been approximately eight o'clock in the evening. We might have selected a spot in our area along our homeward-bound route to patrol on this last day, inasmuch as upon surfacing we were to set course for Pearl Harbor. Our area had, however, only one focal point for enemy traffic: Tokyo itself, and we had hoped to do a little better on this patrol. Despite our mechanical difficulties Benson therefore resolved to play his string to the limit, and we spent our 30th day submerged on the main ship route close to the harbor entrance. When darkness fell, about 2100, we were to surface and take the great-circle course for Pearl.

All day long we saw nothing, until twenty-four minutes past seven when everything changed at once. Lieutenant (jg) Willard Long, who had the periscope watch, sighted smoke on the horizon in the direction of Tokyo. Willy sounded the general alarm, and the next look showed Steve Mann, our exec, the superstructure of an aircraft carrier, bows on. Succeeding observations established the fact that there was but a single carrier, and that it was approaching at an estimated twenty-one knots. A lean and deadly destroyer patrolled either bow. Benson snapped quick looks at them between observations of the target, for they represented our greatest danger. The carrier showed us starboard and port bows alternately. He was zigzagging with wide sweeps, but we were, by chance, exactly athwart his base course.

And from Takeo Yasunobu:

31 December 1953
Tokyo, Japan
Dear Commander E. L. Beach:

I am Mr. Takeo Yasunobu about whom Commander R. H. Konig and Lieutenant Commander L. D. Herman informed you. I am an ex-Japanese Navy captain, and now work at NAF Oppama, Japan, as an employee. I have read SUBMARINE! *which you have written, and I found your submarine* Trigger *had attacked our carrier* Hiyō—*it is not* Hitaka.

I think life is a mystery, because, by chance, I write as a friend to you whom once I met in combat ten years ago. At that time we were not looking at each other. We were confused with heavy damage on the surface of the sea while you were going through difficulties because of our depth charge attack hundreds of feet under the waves.

I want to write you about the battle. I expect you will be glad to hear about it. It is more than ten years since that day, so my memory has faded and, besides, all my notes and official records were burned. But I believe the main point of the story will remain.

*At that time I was commander and the senior staff of the Second Carrier Division which consisted of two carriers (*Hiyō, Junyō*) and four new-type destroyers. The commanding officer of the division was Rear Admiral M. Sakamaki (later vice admiral) and the skipper of* Hiyō *was Captain M. Sumikawa (later rear admiral). These two officers are still alive.*

The essential particulars of carrier Hiyō *were as follows:*

Displacement	*27,500 tons*
Length	*706.2 feet*
Breadth	*87.6 feet*
Depth	*26.5 feet*
Flying deck	*689.8 feet x 89.5 feet*
Max. speed	*25 knots*
Laid down	*Nov. 20, 1939, at Kobe Kawasaki Dock Yard*
Launched	*June 24, 1941*
Completed	*July 31, 1942*

This carrier was converted from a Merchant ship Izumo-Maru. *Her sister ship* Junyō *had the same essential particulars and was converted from* Kashiwabara-Maru.

I was appointed chief of staff in the middle of April 1943. I went to Truk Island to the Hiyō *which was the flagship. We came back to Yokosuka on board* Hiyō *accompanied by two destroyers at the end of May with some tactical duty. On this trip, we left most of the planes at Truk Aerodrome for tactical purposes and we kept a few planes on the ship for patrol. . . .*

Japanese naval records brought to the United States after the war reveal that *Hiyō* had been at Truk since March 27, 1943, and departed for Yokosuka on May 17, arriving there on the 22nd. Her accompanying destroyers on this passage were fast ships of the modern *Fubuki* class. Good reliable escorts for a valuable carrier traveling in "home" waters—and a good estimate by Benson, from a few fleeting periscope observations at long range.

Yasunobu continues:

Before we left Yokosuka, I asked the Yokosuka Naval Air Base to patrol for submarines on the first day, and got the agreement. But they did not fly at all, for the day was very foggy. From the mouth of Tokyo Bay we made a screen of destroyers, and planned to sail down along the west side of South Island.

But the west side was too foggy, therefore we changed our course to the east side of the islands. We were proceeding south at 18 knots and zigzagged radically. Near sunset, the fog became clear, therefore we wanted to pass between Miyake-Jima and Mikura-Ji-ma islands, and to the west side according to our initial plan, and we changed the course.

We could not then, of course, know or care that this was the same task force we had sighted on the 21st on its way from Truk. Nor was there any way of realizing by what a slim chance fate had thrown this ship our way a second time, or, more to the immediate point, that as *Hiyō* reached us her helm had been put over for a major course charge. Had this happened a few minutes earlier the maneuver would have taken her neatly out of danger.

As the enemy approached we prepared for a rough time. Through our sound gear—and in the later stages of the approach through *Trigger*'s hull itself—we could hear the onrushing high-speed propeller beats of the destroyers and the deeper-toned rhythm of the carrier as they raced in formation toward us.

"Down 'scope! Watch your depth! Destroyer passing overhead!"

Propeller beats coming nearer, drumming through the thick steel of our hull, invading the very air we breathe, the foul sticky air of diesel fumes and battery odor and human sweat.

The chopping, roaring, drumming beat rises louder, freezing us in hypnotic rhythm. The destroyer is close now, only a few feet away—

in fact, it's right overhead. Louder, shriller, the cacophonic rhythm echoes through the metal of the ship. Are we deep enough for him to pass clear? Are we sure of his draft? Or will he strike us, careen us over, open our hull with his slashing bronze propeller blades? Your gut jumps and your muscles tighten. You feel the innate frenzy, the heart-stopping terror, lying just under the surface of your self-possession.

And then the drop in pitch; he's going away now. He's past, unaware. Or maybe not unaware. Not at all unaware. At least he will have to turn around to come back. Time to get the torpedoes in the water. After that—

"Up periscope!"

"There's the target! Bearing, mark!"

"Down 'scope!"

Trigger has steeled herself for his moment. The tension, and the perspiration, are at their maximum. Our torpedoes arrow-straight on the target—we the taut bowstring—

"Standby forward!—Up 'scope!—Mark!—Down 'scope!"

"Fire!"

The bowstring is released. Six torpedoes arrow into the frothy, grey ocean, broadside onto the carrier. He is only two-thirds of a mile away, his starboard beam vulnerable before the periscope. . . .

> *At that time, just two minutes before sunset, the duty officer on the bridge saw the big white bubbles of torpedoes in the middle of the calm cobaltic seas and on the right at about 4,500 feet from the ship. He cried 'Torpedoes! This direction.' We looked at it, six white tracers were coming at us. The commanding officer ordered to destroyers by the flag signal, 'Attack the enemy submarine.' The captain ordered 'Port side helm. Full rudder.' These events occurred instantaneously.*

Torpedoes are ejected by compressed air, but to avoid making a huge firing bubble the torpedo tube has a "poppet valve" which opens at precisely the proper moment to swallow the air before it escapes from the muzzle of the tube. From Yasunobu's description it would appear that our poppet valves had failed to operate properly. It made no difference so far as the attack was concerned, for we were too close for avoidance, but six great white bubbles gave the two destroyers a perfect aiming point for their depth charges.

"Captain, give me speed!" I shout up the hatch at Benson's feet.

Our torpedoes, with warhead, are each three hundred pounds heavier than the water they displace. Water takes the place of each, of course, but we have lost weight in the bows of our ship equal to three hundred pounds times six.

Eighteen hundred pounds light forward—without speed for better control the submarine might broach surface. We should have taken in water when our poppet valves swallowed the firing impulse bubbles, more than enough to equalize the weight loss, but no telling how much, if any. As diving officer my duty is to control depth. Bow planes on full dive; main vents already open, in case any torpedo impulse air has become trapped in our ballast tanks.

No word from the captain. Our speed is so low that if the ship is out of trim we may not be able to control depth. Anxiously watching the depth gauges, I detect the quiver of the needle in the upward direction, instantly order more water flooded into the forward trimming tanks.

Forward trim is open to the sea. Air whistles out of the vent pipe. No time to try to figure out what went wrong forward . . . again I shout: "Captain, I need speed!"

Clink of the annunciators. The arrows flip from "one third" to "two thirds." The captain calls from the conning tower. "That's all you can have, Ned! The destroyers are coming! Take her down!"

Savagely, I fought my private fight, flooded tanks as rapidly as the wide open values could take the water. We dared not broach. It would have been fatal—but up we came; 62 feet; 60 feet; 59 feet—58—57 . . . 56—our depth gauges stood at 56 feet for agonized seconds, then we started back into the welcome shelter of the sea.

"Take her deep. Three hundred feet! Rig for depth charge! Run silent!"

I could see Captain Benson's feet going around the periscope in the conning tower above my head. A last quick look. Our torpedoes have not yet arrived; soon we shall have our moment of triumph, and soon we shall pay for it. The skipper is looking at the target when a loud, rather high-pitched, tinny explosion shakes the ship. A hit! cheers—we raise clenched fists in defiant yells of victory. Seconds later, another explosion. More cheers. Benson lowers the 'scope. He cannot wait longer; *Trigger* is on the way down, and her hull resounds with the beat of the destroyer propellers speeding towards us. Two more hits are heard before the periscope bottoms.

> *By ex-Japanese naval way of avoiding torpedoes, the skipper should have ordered 'starboard helm' in this case. But I did not suggest it because it would add to the confusion. The third fish exploded itself after running about 1000 feet and a big water column arose. The right side destroyer turned to the site of the bubbles and began a depth charge attack. Our ship turned to the left to avoid your torpedoes. But I thought it would be in vain; some of them would surely hit, for you had a very favourable position to fire and the skipper failed to turn in the right direction.*
>
> *The first and second torpedoes passed before the bow. The fourth hit under the right hawse hole and splashed water higher than the bridge. The ship trembled terribly. The fifth one hit at the middle part between the bow and the bridge, but when it hit the torpedo's head dropped from the body and it flew along the side. If it had exploded, the ship's condition would have been much worse than it was. The last one hit just under the bridge, and a big fire column covered the bridge for an instant. It burned many charts which were pinned inside of the bridge, and also the captain's hair. All of the crew on the bridge were staggered by the shock.*
>
> *The first hit did not do much damage; it only broke the chain locker. But the last hit damaged us vitally. It broke the first boiler room and the bulkhead of the second boiler room, and killed all of the crew of the first room and half of the second. These rooms all took in water at once. The third boiler room leaked by and by. All fire was put out and all steam went out and the ship stopped.*

Trigger counted four explosions, and we jubilantly credited ourselves with a sure sinking. Now, thirteen years later, we are unable to account for the discrepancy between our version and Yasunobu's. Benson saw the first two explosions and they looked like hits in the forward part of the target to him. One of the two explosions we did not see was no doubt the hit under the bridge. Yasunobu records an additional dud hit, but this caused no explosion, and we therefore conclude that either Yasunobu or Benson is in error. Yasunobu was certainly in the better position to observe, but Benson's report has the advantage of much greater propinquity, time-wise. If there was another explosion, it must have been a second "premature."

> *She was down by the head and taking water badly forward. One of the oil tanks might have been on fire. The big funnel was puffing out black smoke and the decks near the funnel became hot by and by. The smoke did not take a serious turn. And lucky for us, the gasoline did not catch fire and there was no leaking from the gasoline tanks.*
>
> *"The watchmen who were silent before the torpedoes hit began to report 'Torpedo's trace on the starboard,' Periscope on the port side,' many times. But these reports were almost all false reports. The skipper ordered fire against the submarine. All machine guns fired in every direction, aimlessly. I suggested to the commanding officer to cease the fire, for the firing was useless and besides it was in danger of shooting our own destroyers. But it was very difficult work and took a long time, because all electric power had gone out, and there was no way to signal to the batteries, except to pass the order by the messenger. As another reason, it seemed to dull one's fears to operate weapons at the desperate period, even though it may not be effective against the enemy. Many men worked hard to water down with hand pumps, for there was no power in the ship. I thought it was about one hour after the hit that all the men became panicky. You expressed this condition 'little men dressed in white run madly about his decks. His gun shoots wildly in all directions.' Her bow sunk by and by, and the sinking stopped when the hawse hole touched the water.*

As *Trigger* plunged recklessly with the forward part of the ship now heavy from the extra water I had been forced to take in, our sonar man could hear two sets of propellers rapidly coming closer.

And then came the depth charges—in a concentrated, crushing, pounding barrage which threatened our eardrums and our sanity, as well as the watertight structure of our ship. *Trigger*'s deck leaped under our feet. The men on the diving controls fought to retain their footing, to maintain some semblance of control over the violent movements of the ship. Instructing them was impossible under the shattering noise, but they needed none. In the infrequent intervals between depth charges, once the slow-fading reverberations had died, there was deathly silence. Someone was drumming with fingernails on a hard polished surface. My temper boiled up and over. Throwing a glance of fury behind me, I called out:

"Stop that drumming!" . . . followed by a few choice expressions suitable only for special occasions.

The fingernails stopped, their embarrassed owner shamefaced.

Another line of depth charges. All together—no space between—all dropped at once. *Trigger*'s steel frame again came alive with tingling, electric-like vibration. We were by this time below our maximum allowed depth, forced there by the explosion of the depth charges, and the ship was heavy, partly because of water taken in to stop her initial rise, and partly because the compression of the hull reduced the water displaced and thus reduced buoyancy.

We had made, however, four solid hits in a huge first-line carrier! That was something! No submarine in our navy had yet even damaged a prize of this magnitude. With four hits, spaced evenly along her length, the ship must surely sink. Our spirits soared excitedly in spite of the desperate condition in which we at that moment found ourselves.

We could not pump the excess water out of our bilges or from our tanks, for our pump was old and noisy; and we dared not blow with compressed air, for this is even noisier. We had to run at creeping speed, consequently with minimum hydroplane life, and—somehow—carry the excess weight. But it was too much, and slowly, as inevitably as fate, our depth gauges crept around. Between explosions I instructed the men at the planes to give the ship a large upangle. This slowed our rate of descent. It was all we could do. Every man aboard appreciated, wordlessly, the significance of the unusual climbing attitude of the ship, glanced at depth gauges or sea-pressure gauges, silently went his way. The bow and stern planes were, of course, in "hand" power instead of hydraulic, and silently, relieving each other by turns, the sweating planesmen struggled for control. The destroyers were listening for us, alternately dropping depth charges and listening. We could practically hear them listening.

The intervals between depth charges grew perceptibly longer, until finally it appeared that perhaps the last charge might have been dropped. We could hear the propellers of two destroyers milling about topside and in the distance the creaking and groaning of a large ship rolling helplessly in a seaway. Perhaps our target had not sunk. Could we come back and re-attack? Perhaps, if we were able to shake them. But we still dared neither pump nor speed up. Now, if ever, the destroyers were listening for us. No hope whatever of regaining periscope depth—of seeing, even if the darkness would permit.

IJN *Jun'yō* at anchor in Sasebo, Japan, September 1945. More fortunate than *Hiyō*, *Jun'yō* survived a torpedo attack in November 1943. She was damaged by bombs during the Battle of the Philippine Sea in mid-1944 but was quickly returned to service, only to be torpedoed again in December 1944. *Jun'yō* was under repair until March 1945, when work was canceled as uneconomical. She was then effectively hulked for the rest of the war.

Dogged by two destroyers, we crept away toward the northwest. We had been submerged for sixteen hours. We needed badly to come to the surface before daybreak; needed the opportunity to reload torpedoes,

pump water, and increase speed, all of which involved the making of noise.

> *The commanding officer, skipper, and I stayed on the bridge throughout the night. I feared and prepared against your second attack.*
>
> *"For the big immobile carrier might be a very fine target for you and there was some visibility on the sea by the moonlight. Besides, we had no reports from destroyers that they did have an effective attack against the submarine. We were drifting helplessly and we hoped the moon would hide and it would become completely dark.*

According to our log, the last depth charge was recorded at 2109, and our situation was now desperate. *Trigger*'s decks and bulkheads bulged with the compression of the outer hull; water seeped in through overburdened sea fittings. The temperature had reached 125° with a moist, enervating humidity which sapped our strength. To save noise we had long ago put the bow and stern planes in hand power and secured the hydraulic plant which normally operates them. In the close, fetid atmosphere, men ran perspiration as they cranked violently on the huge wheels, and we had gone through half the crew for reliefs. Our exertions, and the tension, had literally catapulted moisture into the air, and with the high humidity it had condensed rapidly on the cold metal. Our waxed linoleum decks, lately fresh and clean, were now a slimy, slushy ooze, composed of wax, dirt, and sweat.

We panted for oxygen in the starved air. Our pharmacist's mate showed me the indication of over 3% which he had registered in his carbon dioxide testing apparatus. I quietly ordered him to valve oxygen and breach the tins of CO_2 absorbent, spreading the lithium hydroxide in any handy place, preferably on some out-of-the-way bunk. As he turned away he offered me a salt tablet, which I gratefully swallowed, my suddenly dry throat choking as I gulped and jammed it down.

The ship had for some time been at the maximum up-angle we felt it practicable to assume, around 15 degrees. But slowly she sank, nevertheless, for we could neither speed up nor pump. Gradually the accumulation of water in the bilges and the compression of the hull under the fantastic squeeze of seawater at this depth was making us heavier. Foot by contested foot, we descended into the abyss of the sea.

Approximately half an hour after the last depth charge, the sound of enemy propellers having droned farther away, the skipper authorized me to try pumping a little. But hardly had the pump started than another charge rocked us. It was a little more distant, but it served warning that we were not yet rid of the hunters.

We speeded up slightly, however, thus giving us sufficient lift on our control surfaces to maintain depth; and soon I had the ship on an even keel. Just after midnight we again started the pump, and shortly afterward brought the tip of *Trigger*'s periscope above the surface of the sea.

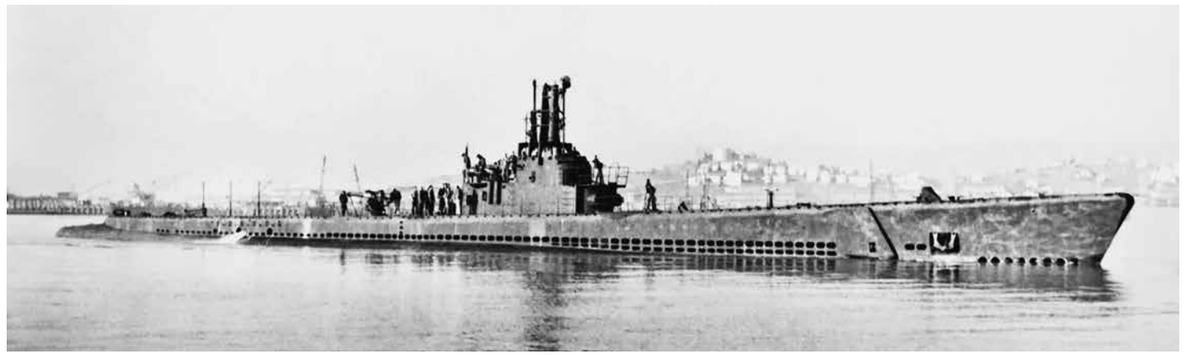
There was nothing in sight, but it was so dark that very little could have been seen through the periscope in any event. We were not there long before the sonar man reported high speed screws approaching. Down we went again, under better control this time.

But no attack developed. The enemy destroyer was not aware that his swing through the area had come near us, and he kept right on going. At a few minutes before three *Trigger* finally rose to the surface and started her three good engines, luckily none the worse for wear after the pounding they had received. We were not able fully to recharge our battery, for we had only cranked a few of the life-giving ampere-hours back into it when approaching dawn forced us to dive once more. We had, however, cleaned out the ship, dumped the accumulation of garbage and other trash, and reloaded our torpedoes. But an inventory of the ship's condition was not pleasing.

Both air compressors were out of commission, one knocked entirely off its foundations. Our steering had developed an unusual thump, though it worked well enough, and inspection disclosed nothing to explain the noise. Our main hydraulic plant could no longer hold pressure of either air or water. Both sides leaked, and it was noticeable that all our hydraulic equipment functioned more slowly than before.

A thorough check failed to reveal any misalignment of propeller shafts or engines, for which we counted ourselves fortunate in view of the shaking they had lately received; and *Trigger*'s stout hull, subjected to its most severe ordeal, had come through valiantly. We and our ship were safe, though battered, and we were homeward bound.

> *"Her chief engineer was a very brave and active officer. He kept the third boiler room and spurred his men on and fixed it under the worst and most critical conditions. He restored the steam next morning and we could use twin screws from eight o'clock. Before this, the light cruiser* Isuzu*—5,500 tons—came on the scene of the disaster to help us in the early morning. She tried to tow our ship, but it was in vain, for the carrier became too heavy and in too badly a trim.*
>
> *The damaged* Hiyō *started to Yokosuka on her helm. She moved very slowly (her speed was only six knots) but it was very pleasant when she moved and took a course north after a long day of hard work.*
>
> Hiyō *anchored at Tateyama at midnight and returned to Yokosuka safely next morning, the 12th of June. She was repaired at the Yokosuka Naval Dock Yard, and went to sea again. She took part in the battle near Saipan Island in June, 1944, and she received two torpedoes from submarine and torpedo planes and took fire. At last she sank under the sea near Guam Island.*
>
> *"She launched in June, but June was a very unlucky month for her.*
>
> *Yours truly,*
> *Takeo Yasunobu*



USS *Trigger* (SS 237) in carrier-hunting mid-war fighting form. This is essentially how she appeared at the time of the events described here—fairwater cut down to reduce silhouette, guns added to the cigarette deck and forward of the bridge. In all respects, ready for action.

As aftermath of the battle, when *Trigger* arrived at Pearl Harbor, inspection of her condition by the materiel officer resulted in the decision to put her in immediately for a Navy Yard overhaul, where she spent the next month and a half. There we received a new battery and new air compressors, and our engine and hydraulic plant were repaired. Our adversary, we heard, had not sunk at sea, but had been intentionally beached at Yokohama Harbor. We consoled ourselves that she was at least "sunk" to the same degree as *West Virginia* and *California* on December 7, 1941.

And *Trigger*'s fight with *Hiyō* had another far-reaching effect. When we arrived back in Pearl Harbor, Captain Benson was asked by Admiral Lockwood, our ComSubPac, once again to go through everything he could recall relating to the action with the Japanese carrier.

The information in ComSubPac's hands was to the effect that our target had been hit by only two torpedoes. This, measured against our positive evidence of four torpedo explosions, confirmed Admiral Lockwood and his staff in a belief which had long been growing. Our torpedoes were equipped with an "influence" exploder similar to that of the German magnetic mine, designed to detonate the warhead when it got within the strong electromagnetic field existing beneath a ship. But our exploder was complicated and too sensitive. The magnetic field of a ship is not confined to the area beneath it, and our torpedoes had a tendency to detonate before coming close enough to their target to inflict damage.

Survival of our target carrier was the last straw to Admiral Lockwood and his staff. On his own authority he directed all his submarines henceforth to deactivate the magnetic features of their torpedo exploding mechanisms.

This was not the end of our torpedo troubles, for we then discovered that the contact exploder was also faulty, and finally that the torpedoes did not run at their correct depths. But the heartening thing was that at last the Submarine Force, Pacific Fleet, had taken the torpedo problem into its own hands.

Within a year the all-out research to which *Trigger*'s experience contributed cured the trouble. In effect, it was *Hiyō* among others who gave us the sure-fire torpedo which was certain to explode upon striking a target. It took us only an additional year to sweep the Japanese Merchant Marine from the high seas.

Some months later a story came to our attention to the effect that one of our submarines had lain on the bottom of Tokyo Bay for a month, watching the enemy construct an aircraft carrier. On the very last day of her patrol, when due to start back to Pearl Harbor, the sub had sent six torpedoes crashing into the hull of the newly built ship as she went down the ways, neatly sinking her in the harbor.

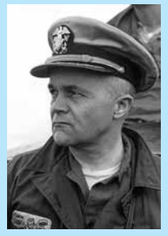
We hardly recognized ourselves as the originals of this fanciful tale. Our carrier looked new, true; because of the lack of planes on deck we thought her probably on trial. And she had been damaged virtually in her own home port, and had lain half sunk there for days, in plain view. But that was all. Nevertheless, the embroidered yarn made us regret more than ever that we had been unable to go back and finish her off.

On the other hand, as I wrote to Captain Yasunobu, since the outcome of the war was not thereby affected, I am now less disappointed that we did not completely sink his ship, for had we done so I might never have received his valuable and illuminating correspondence which is quoted herein.

As Yasunobu says, *Hiyō* was launched in June, torpedoed in June, and finally sunk in June. She was not lucky in June, nor, evidently, very much so at any time. Her total evaluated contribution to the Japanese war effort, considering the morale effect of her ignominious return to port, and her influence on our torpedo development, may even be counted as a net gain to the Allies.

Lucky or not, *Hiyō* was a brave sight as she came thundering down the line toward our periscope—and I, who never saw her, will always remember her thus.

Captain Edward L. Beach



Edward L. Beach graduated first in his class from the U.S. Navy's submarine school in 1941, two weeks after the Japanese attack on Pearl Harbor on December 7. He was assigned to the *Gato*-class USS *Trigger* (SS 237), which was completing construction at Mare Island, California. During his ten war patrols aboard *Trigger*, he served as communications officer, engineering officer, navigator, co-approach officer, and executive officer.

In late 1944, Beach reported to the newly commissioned USS *Tirante* (SS 420) as executive officer under Lieutenant Commander George L. Street. In June 1945, after returning from *Tirante*'s first war patrol, Beach assumed command of USS *Piper* (SS 409).

During WWII, Beach participated in twelve war patrols that damaged or sank forty-five enemy vessels and received numerous decorations for gallantry, including the Navy Cross.

After the war, Beach commanded USS *Amberjack* and the second USS *Trigger* (SS 564) before serving in several administrative roles, including as naval aide to President Dwight D. Eisenhower from 1953 to 1957. In November 1959, he took command of USS *Triton* (SSN 586), and in 1960 led her historic eighty-four-day circumnavigation of the Earth without surfacing.

After commanding *Triton*, Beach commanded Submarine Squadron Eight. From July 1963 to December 1966, he served in the Office of the Chief of Naval Operations, and he retired from active duty as a captain in 1966 after twenty-seven years of service.

Beach began writing about his wartime experiences following the war, and after retiring, became a prolific author, publishing thirteen books—*Run Silent, Run Deep* among them—and numerous magazine articles.

AZORIAN

The CIA project to recover a sunken Russian submarine

by Tom Dougherty

with contributions from Michael White and John Cardwell

Part Three

RAISING THE *K-129*: THE 1974 MISSION OF PROJECT AZORIAN

The Mission Gets Underway

By the summer of 1974, significant at-sea equipment tests had indicated that *Glomar Explorer* and her recovery equipment enjoyed a reasonable chance of success. Though the trials had not taken place in the challenging environment of the deep Northern Pacific, the general view among those overseeing the experiment was that the various complex components involved had indeed demonstrated they could function. With wreck site waters only calm enough in mid-summer to offer any real opportunity to proceed, further delay for additional refinement of equipment or procedures would mean postponement until the summer of 1975. As recounted earlier, with each passing day, the risk of public mission exposure was also becoming too high; some sniffing news organizations had already got on the scent of the story. The decision was therefore made to forgo further waiting and proceed in 1974.

Prior to getting underway, all government employees involved were individually sent to a CIA "safe apartment" in Long Beach. There, all surrendered their personal documents for safekeeping—anything showing a name, such as driver's licenses, passports, and credit cards. A new "identity" was then issued for each, complete with a changed name on a new driver's license, passport, and even valid, working credit cards. Dr. David Sharp, one of the CIA operation directors, became Hughes *Glomar Explorer's* "Mining Superintendent, David Schoals."

Then suddenly it was time. With the tide at its highest point, *Glomar Explorer* eased out to sea to begin her 3,000-mile journey to the *K-129* target area. It was midnight on June 20, 1974. The ship did stop briefly three miles out—deliberately in international waters, in fact—to officially transfer ownership from Sun Shipbuilding & Drydock Company to the Hughes Summa Corporation. Officials had even helicoptered in for the document signing; a ceremony complete with refreshments and a celebratory cake, its at-sea location dictated by a business decision to avoid paying taxes to the City of Los Angeles. It wasn't known, of course, but Summa Corp. was actually a front for full CIA ownership.

Captain Tom Gresham then turned the ship on course for the *K-129* recovery area at 40.06N and 179.57E. Among *Glomar Explorer*'s crew complement of 178, there were six government (CIA) employees managing the operation, as well as a number of oil drilling "roughnecks" to handle the difficult pipe string operations. Also aboard were equipment techs from Honeywell, Western Gear, Delco Electronics, Lockheed, and Mechanics Research—plus fourteen divers, a meteorologist, a doctor, paramedics, and two Navy submarine officers, each trained in nuclear safety and the handling of hazardous materials. Rounding out the roster were assorted deckhands, cooks, bakers, and stewards. It was quite a diverse bunch.

Equipment was again inspected and tested along the way as *Glomar Explorer* sailed west, with minor repairs made to parts of the CV (capture vehicle) affected by corrosion. The critical heavy lift system's forty-eight hydraulic pumps were also checked out at their maximum pressure. During the recovery effort, their power would ultimately pull the combined weight of the target (*K-129*), the CV, and the pipe string simultaneously. To test the CV overall, operators spent their transit time practicing with an onboard simulator, using computers together with models of the CV and target submarine. TV cameras rigged as they were aboard the CV were aimed at the miniature *K-129* to enhance motion simulation, while computer equations modeled the CV's scanned sonar returns as well as *Glomar Explorer*'s seaway movement. Pipe stresses and other challenges were also factored into the simulation.

Meanwhile, the crew held classes with the two onboard submarine officers to review procedures and check out the radiation suits and masks supplied for the mission. They had been made available in case of any leaks from *K-129*'s known nuclear missile payload and possible nuclear torpedoes as well—the potential for such contamination having been completely unknown. The crew was also taught key Russian phrases and specifically how to handle recovered documents, books, and equipment recovered after being on the bottom for six years at freezing temperatures and pressures of 7,400 PSI.

Another key activity was finalizing and testing the software for controlling the heave compensator, a formidable device that would act as a shock absorber against incoming waves. Riding atop the waters at the site would also be two buoys providing wave height data for integration with the pipe string's weight and stress load. This was required for adjusting the heave compensator's air pressure—the goal being to avoid resonance buildup in the pipe and CV system because, left unchecked, it could result in dangerous stresses on the ship and CV. The twin Honeywell HC316 computers

The *Glomar Explorer* on station during the mission. July, 1974.

running these essential components were state-of-the-art for their time, though certainly not powerful by today's standards. Still, all this technology would keep the rig floor and attached pipe string at a safe, constant height as the ship rocked upon the surface.

On July 4, *Glomar Explorer* reached 40.02N; 179.49W, a mere few miles from the *K-129* site. A position check via the Navy's Transit navigation satellite provided a more precise measurement, though never as quick or convenient as today's ubiquitous GPS. Final navigation to the site was then determined by simple dead reckoning.

The next day, the ship deployed the wave rider buoys and acoustic transponders needed to create the desired navigation "box" around the wreck site. There were two such transponders used: a long baseline system (LBS) to position the ship, plus a short baseline system to position the CV. The short ones' transponders were specifically used to position the CV over the target upon entering the debris field—the same devices once deployed by *Halibut* when she had visited the site much earlier. They employed heavy battery packs as their anchors to the sea floor, the buoyant transponders themselves tethered to float thirty feet off the bottom.

Once at last arrived at the site, additional days were needed to calibrate the transponder grid, then the ship's position within the grid was measured by the exact time individual transponder signals arrived at her hull. The geographic position of *K-129* had been known from the prior *Glomar II* expedition, so the ship could be precisely positioned via multiple Transit satellite fixes and then located over the wreck relative to the transponder grid. The bottom of the ocean had also been surveyed with sonar, providing additional locating data. Because of all this, the target's position on the bottom was reasonably certain; this was important since *Glomar Explorer* didn't particularly want to be "fishing" any distance in search of the sunken submarine, considering the weighty CV on the end of its three-mile-long pipe string.

Now in its final position, the ship's automatic station keeping system (ASK) used the transponder data to keep *Glomar Explorer* plus/minus ten feet over the wreck, constantly fine-adjusting using the ship's propellers and side thrusters. Once the CV was near the bottom, those same transponders could also help the apparatus use its own eight propeller thrusters (at the four corners of its strongback) to make minute adjustments at the end of the lengthy pipe string. Although such thick, heavy pipes might've been expected to stay rigid over their extended length, there remained a considerable degree of flexibility for CV movement at the tail end.

On July 8, *Glomar Explorer*'s moonpool was flooded and its bottom gates opened. The docking legs then lowered the CV down fifty feet, leaving its deck awash for the wet check of its systems. At this point, one docking leg's aft closed-circuit television (CCTV) camera brackets were discovered to be badly corroded, requiring replacement. As well, one of the CV's lights began to flicker, also triggering replacement by divers. A critical pressure transducer on one of the CV beam and davit assemblies (grabber)—essential to determine the stress on the beam—now also failed and had to be replaced. An inauspicious start.

Unfortunately, the weather had now become troublesome as well, bringing higher wave heights and swells. Suddenly adding still more uncertainty, a medical emergency also cropped up when one of the engineers, Robert Mlady, suffered a mild heart attack. Fortunately, the ship's doctor was able to manage his treatment on board.

A CGI representation of the *Glomar Explorer* as it releases the CV from its docking legs, beginning its descent to the ocean floor.

On July 13, *Glomar Explorer* was contacted by the British merchant ship *Bel Hudson*, indicating she had a crew member suffering from chest pains. Under the Law of the Sea, *Glomar Explorer* agreed to bring the sailor aboard, transferring him via a small boat. Measures were taken to make sure he would see as little as possible of the ship's secret activities. The doctor soon determined the man's chest pains were actually bruised ribs—the residual effects of a fight he'd been in—so he was returned, *Bel Hudson* soon sending back some fine scotch as a thank you for the assist. *Glomar Explorer's* location, however, had now been noted in the *Bel Hudson* log.

Soviet ship *Chazma* as seen from the *Glomar Explorer*.

Capture Vehicle Grasps the Target

Local weather continued to be a nuisance for five days after *Glomar Explorer*'s arrival, and the CV, hanging from the docking legs below the ship, suffered damage from the sea's constant churning. Most troubling to the crew was the observation of some sagging of the tines at the end of the beam davits (fingers). Also, one of the docking legs had developed a crack requiring welding. As a result, it was now decided to bring the CV back into the moonpool for repairs.

On July 18, *Glomar Explorer* was joined by the Russian satellite tracking ship *Chazma*, which soon deployed a helicopter to circle closeby and take pictures. Luckily, however, *Chazma* departed a day later after learning by radio that *Glomar Explorer* had been performing "ocean mining experiments."

The Russian salvage tug, *SB-10*, shadowed and harassed *Glomar Explorer* throughout the mission.

On July 19, the well gates of the moonpool were opened again, with the CV lowered once more on the docking legs. The next day was spent connecting the CV's three-legged bridle rigging to a joint device (the "Dutchman") on the initial pipe string section. To make the connection, twelve-inch diameter 500-lb. pins were inserted. Not unexpectedly, rigging all of these heavy connections on a moving ship frequently took longer than originally planned.

Then, on July 21, the docking legs were lowered while grasping the CV. The heavy lift system took up the CV's weight and lifted it slightly so its suspension pins could be disengaged from their slots, and the docking legs retracted fore and aft. There were the inevitable bumps and shocks, but once completed, the CV was free, suspended only by the pipe string. More and more pipe sections could now be added to extend the string toward the bottom. Immediately, however, additional troubles developed with the heavy lift system's upper lifting yoke—requiring more repair directly at the start of operations.

As the CV began to lower, its pipe string lengthened sixty feet at a time. A double section this long was raised by crane from storage within the stern and placed onto an inclined railway cart running up to the rig floor. The pipe section was now pulled upright within the derrick by an automatic roughneck, then lowered and screwed onto the box end of the pipe below it by an automatic sub spinner.

The total pipe load attached to the CV was transferred between the upper and lower lifting yokes, each alternatively moving up and down, grasping and releasing the pipe to lower it. These yokes engaged the pipe at machined boxes in its joint ends. As the pipe lowered, divers on a moonpool platform tied a CV-controlling EM cable to each one as it was deployed. This cable carried power and control signals via a twisted pair to a modem connected to the electronic gear installed in thick pressure spheres on top of the CV. The pipe string's lengthening was understandably very slow going and frequently had to stop for assorted problems. There having been little time before the mission to work out mechanical and electronic bugs in the system, these delays were understandable if not predictable.

From July 21, to July 29, piping was deployed, with several halts as malfunctions of the heave compensator were investigated and addressed. Working in tandem, the rig floor's gimbals acted to take out forward/aft and side-to-side motion, also serving to keep the floor still and level amid the ocean's constant swells.
This took vertical and sideways stress off the pipe string as well.

One heave compensator malfunction saw it taking on an acute angle and locking up the gimbals—suddenly putting enough stress on the pipe string to potentially snap it. Watertight doors on the ship were slammed shut and repairs made before the millions of pounds of potential pipe break rebound energy could get any chance to split the ship in two. Unexpectedly adding to the crew's woes, the oceangoing Soviet salvage tug *SB-10* showed up at that moment to observe goings on, moving in close and then backing off, repeating this behavior over several days. The tug, sporting multiple antennae, was clearly a surveillance vessel, at times even collecting *Glomar Explorer*'s discarded trash bags from the sea to

search their contents—an old ploy from *Run Silent, Run Deep*. Fortunately, the material in them was merely non-classified printouts, innocuous papers, and other trash, because the crew had been cautioned to keep secrets out of the garbage. Once this Russian dumpster-diving was detected, however, it was *game on.* The *Glomar* crew took delight in sliming their trash with Aqua-Lube grease, making it offensive to handle. And the bags themselves were inflated with small amounts of acetylene gas and sealed. This made them buoyant, so now they skimmed across the wave tops on the ocean breeze, requiring considerable extra effort to round up. Not wanting to risk truly angering *SB-10*'s crew, however, this was the limit of Russian-baiting permitted by the captain. Still, one of the officers became so exasperated by the tug's continued close-quarter actions that he beamed a powerful bridge searchlight onto it at closest approach. Though this man was then permanently banned from the bridge, frustration with persistent Russian presence remained high as the aggression continued—the tug one time closing to within fifty yards before veering off. This created potential for real disaster. Given *Glomar Explorer*'s nearly immeasurable deployed weight, she simply couldn't maneuver to avoid collisions: any movement risked damage to the pipe string and an instant end to the mission.

With its operational stress load exceeding ten million pounds, the heavy lift system's pumps were now pushing 1,200 gallons of hydraulic oil per minute, and its 18-inch-diameter hydraulic feed lines were running at 2,700 PSI. With the strain so great and getting greater, these pumps were creating ever more concerning vibrations through the pump room floor.

Then it happened. On the 27th, one of the system's forty-eight overstressed hydraulic pumps exploded, showering broken part shrapnel and hydraulic oil all over the room. At the time, lift technicians were located in a separate control room, so they could still safely work to isolate the problem. The resultant cleanup and pump replacement work lasted several hours regardless. Meanwhile, a lower yoke failure occurred on the same day, necessitating additional repairs.

By July 29, almost twelve million pounds—the CV plus the combined weight of the entire pipe string—hung from the yokes of the heavy lift system. This placed a considerable bending load on the ship's wing walls located on each side of the moonpool. But once the CV had descended to 650 feet from the bottom, Lockheed control van personnel activated the outriggers' profiling CTFM

CV approaching *K-129* target, illuminating it at 16,500 feet down.

(continuous transmission frequency modulated) sonars—and soon signal returns were coming in, indicating the presence of the *K-129* target…just as expected.

Once 200 feet off the bottom, the CV's floodlights were switched on, and immediately an amazingly clear CCTV video of *K-129's* forward hull was revealed. As initially seen in *Halibut*'s 1968 photos, the wreck was lying with its starboard side at an angle toward the ocean bottom, the local topography sloping downward toward the target's bow. This had been planned for, the CV having been specifically designed to engage the recovery target while it lay in this orientation on the sea floor.

At this point, with the pipe extended, the hydraulic system powering the CV was attached at the pipe end in *Glomar Explorer*'s moonpool—its pumps using lubricant-added seawater to charge the hydraulic system at 2,000 PSI through the six-inch hollow core of the pipe string. This pressure permitted fine maneuvering from the CV's eight mounted thrusters, plus articulation of the beams and davits of its fingers, and also, later operation of the four extendable legs intended to pry the wrecked submarine off the ocean floor.

Upon closer approach, it was apparent that an additional pipe section would be needed to lower the CV onto the target. Moving slightly downslope from *K-129*'s position, the CV's hydraulic system was detached, pipe added, and the hydraulics then reattached. A welcome surprise was that the CV's eight thrusters did not stir up muck on the bottom, so TV images remained clear, aiding in aligning the CV with the axis of the wrecked hull. Target reticles on the TV cameras made for accurate alignment with precise, pre-selected points on the *K-129*. The CV's beams and davits were then extended to the full "out" position to prepare for the coming touchdown.

As the last pipe was slowly engaged, the CV carefully positioned itself over the target through judicious use of its hydraulic thrusters. Profiling sonars on its outriggers, along with its various onboard fixed and pan-and-tilt cameras, all helped guide it into exact alignment.

At 9 a.m. on July 31, final descent began, the CV's thrusters bringing it to within one foot of the predetermined marks on the target. Because of the incline of the ocean bottom in the area, the CV's aft legs touched down first, its thrusters continuing to control movement toward axis-to-axis alignment. Then its front legs slowly lowered and touched down too—the entire apparatus now aligned with the sunken submarine, the whole final descent taking only fifteen minutes.

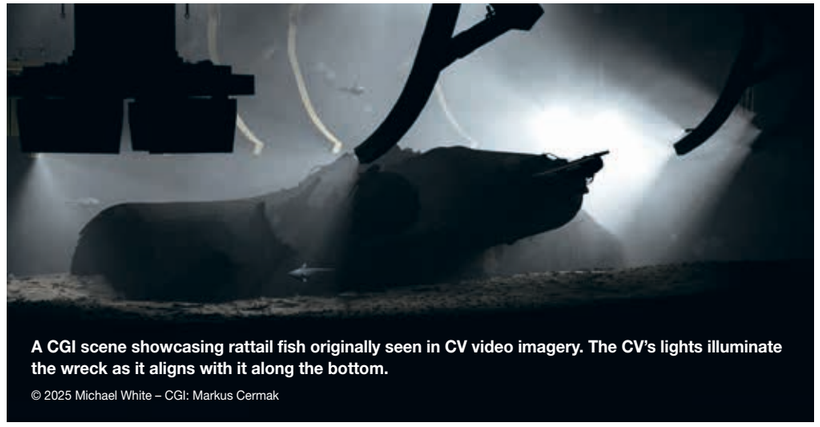
Next came more system checks before the team could attempt to drive the CV's extended beams and davits through the soil under the wreck—and once beneath, close them to cradle the submarine inside. This Herculean process now began by first activating water jets on the ends of the fingers to loosen the soil on the bottom. Next, the CV and pipe string's combined weight was offloaded from the *Glomar Explorer*'s lift system, this million additional pounds actually having little effect in driving the CV's davits into the bottom. (Recall that earlier efforts to obtain bottom hardness information had failed when the prior *Glomar II* expedition had lost its sampling system.) Now it was clear: the soil of the sea floor was more compact than anticipated. So, additional weight was offloaded, and the water jets were set to full. Still, precious little penetration progress was observed.

Finally, operators had the heavy lift system pull more weight off, and at last, this disturbed the bottom around the tines, enabling them to finally penetrate about two feet into the soil. This turned out to be sufficient for closing them under the target, moving in an arc below the submarine without puncturing its prone hull.

One by one over several hours, individual davit tines were hydraulically driven under *K-129* to swing closed. Beams 4 and 5 still had difficulty with the process, but it was a mystery whether the hard structures they encountered were rocks or unknown protrusions from the submarine's hull. Regardless, the bottom was harder and the procedure more difficult than had been expected.

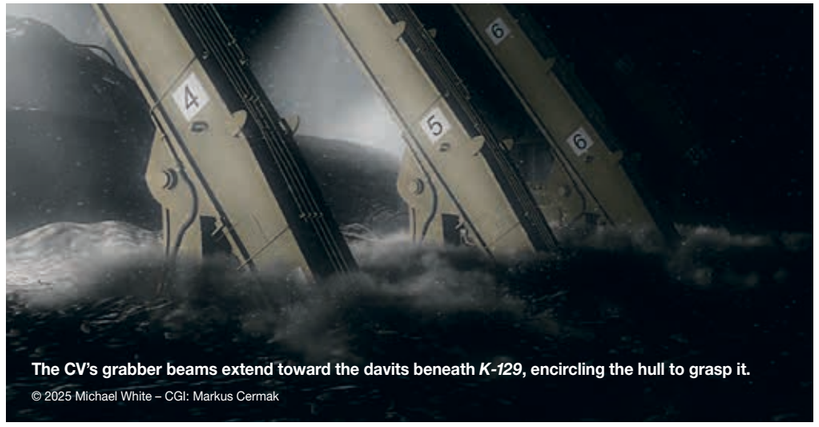
Once all the davits had successfully been positioned beneath the wreck, adjustments were made to evenly distribute as much of the weight of the submarine as possible. During this, some of the actuator cylinder seals developed hydraulic leaks, causing the structure to move out of position. Various electronic davit position gauges also malfunctioned. All of this represented the first full test of the CV operating at 7,400 PSI in freezing temperatures while dealing with compressed bottom soil. Now, the loss of vital beam and davit information was making it still harder to adjust such a challenging load, so the CCTV camera system was also enlisted to assist with positioning as much as possible.

The next step after fully cradling the wreck was the "breakout" process—freeing the sub from the bottom where it had settled for six years. Before this was attempted, though, it was noted that the target had rotated somewhat since the start of the operation. Though the effects were unknown at the moment, this had likely

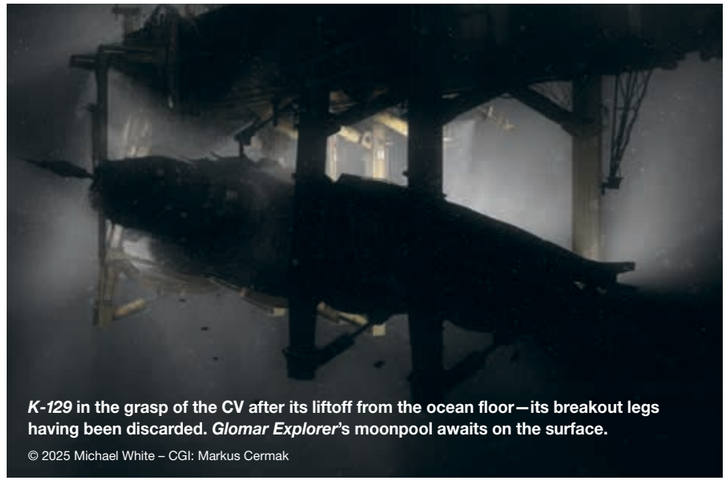


A CGI scene showcasing rattail fish originally seen in CV video imagery. The CV's lights illuminate the wreck as it aligns with it along the bottom.

The CV is in the final stages of its descent toward the sunken target, viewed from the front of the wreck.



The CV's grabber beams extend toward the davits beneath *K-129*, encircling the hull to grasp it.



***K-129* in the grasp of the CV after its liftoff from the ocean floor—its breakout legs having been discarded. *Glomar Explorer*'s moonpool awaits on the surface.**

A still frame from the CV video camera shows the *K-129* sail resting on the sea floor. The deadlights and snorkel are visible, along with extensive damage to the aft missile tube.

caused damage or structural weakening to davit and/or beam numbers 4, 5, and 6.

To begin the breakout maneuver, hydraulic fluid was routed to the four breakout legs at the corners of the CV, extending them and applying a lifting and prying action to pull the submarine free. Surprisingly, upon examining the data afterwards, it was found that there was virtually no suction force at work when employing the breakout legs: the CV scanning sonar confirmed that the target had been off the bottom, since it could image under the hull. The heavy lift system was also pulling on the load, mostly to keep the CV and its prized payload level.

Just at the point where liftoff to the surface had been planned, the heave compensator failed once again; so the CV and submarine had to be gently placed back upon the ocean floor. This action probably further stressed the beams and davits in ways unanticipated. Once repairs were completed on August 1 however, *K-129* recovery resumed. Once again, the four CV corner legs were extended, and the CV and submarine lifted off the ocean floor. As the effort progressed, the four breakout legs—no longer needed—were jettisoned to the bottom, with the heavy lift system now handling the weight of the sub, the CV, and the entire deployed pipe string. All was now at maximum stress.

Retrieving the CV with its submarine cargo was essentially a reverse of the deployment process: sixty-foot sections of the pipe string were hauled up by the yokes of the lift system, each pipe unscrewed and removed by roughneck, then placed on the transfer cart to be lowered down the rail, unloaded, and stacked in the storage hold.

Ever so slowly, the CV and recovered wreck were brought toward the surface in early August. As the pipe was hauled up and pipe sections removed, the corresponding weight and stress became incrementally less. *K-129* was now headed to the surface and into *Glomar Explorer's* waiting moonpool.

To be concluded in the next *American Submariner*.

Arriving and Leaving

by Mike Hemming

Today, when I look forward, I also think back to friends and an amazing life like no other. Back then, as we strode down the pier to our new boat, sea bags on our shoulders and new E-2-striped boot camp dress blues proudly on our backs, we never looked back. There was nothing behind us, only everything ahead. A new boat, a new life. Qualification, living, and learning awaited us.

We'd wanted the boats, and we'd got them. Now, we'd have to prove we deserved them.

Approaching the black submarines expecting adventure, instead, we advanced toward learning, toward growing up. We never fully understood the rationale for our desire, yet we pursued our dreams nonetheless.

We did grow and learn, of course. And the real adventures came soon enough—not often, but occasionally, and we survived them all.

We formed friendships hard to explain—city boy and country kid, still bonded today by the dolphins worn back then. Inside an oppressive, cramped steel tube, we became brothers—a special form of fraternity which lasts to the grave and then some.

Another day long afterward, an icy December wind whips at my gabardine bell bottoms as I walk the pier shoreward with my sea bag again shoulder-perched—this time above an E-6 crow. Behind me, the COB says to the watch, "They always look back. They move on, looking forward to a new life, but they always look back at this one."

At the sea wall, I turn to look back. The sub nest looks much as it did that very first day. The boats haven't really changed, but I know they will. I've changed, though, and it's time to move on. This life has changed me; I'm now forever a submariner.

Shivering in the cold, I turn and pass a young sailor headed the opposite way on the pier, toward the boats, orders clutched in his fist. I watch until he reaches the brow. He never looks back—and I smile. They never do. Until later.

LOST BOATS

"I can assure you that they went down fighting and that their brothers who survived them took a grim toll of our savage enemy to avenge their deaths."

Admiral Charles A. Lockwood, USN

USS *F-4* (SS 23)
21 officers and men on board.
Lost on March 25, 1915 when it foundered 1.5 miles off Honolulu. *F-4* was the first U.S. submarine to be lost at sea.
All hands lost.

USS *H-1/SEAWOLF* (SS 28)
25 officers and men on board.
Lost on March 12, 1920 after grounding on a shoal near Santa Margarita Island off Baja California.
4 men lost, including the CO.

USS *S-36* (SS 141)
43 officers and men on board.
Lost on January 20, 1942 off Rabaul after running aground on a reef. Her crew was picked up by a Dutch ship and *S-36* was then scuttled to keep her from falling into enemy hands.
No loss of life.

USS *S-26* (SS 131)
49 officers and men on board.
Lost on January 24, 1942 in the Gulf of Panama when she was rammed by USS *PC-460.* The CO, XO, and one lookout on her bridge survived.
46 men lost.

USS *SHARK* (SS 174)
59 officers and men on board.
Lost on February 11, 1942 most likely falling prey to enemy depth charges.
All hands lost.

USS *PERCH* (SS 176)
59 officers and men on board.
Scuttled on March 3, 1942 after being forced to surface after two severe depth chargings in less than 200 feet of water. Fifty-nine men were taken prisoner, 53 survived the war.
6 men died as POWs.

USS *ARGONAUT* (SS 166)
102 officers and men on board.
Lost on January 10, 1943 off Rabaul during her third war patrol. Sunk by escort gunfire after being forced to surface during an attack on a Japanese convoy.
All hands lost.

USS *AMBERJACK* (SS 219)
73 officers and men on board.
Lost on February 16, 1943 somewhere off Rabaul where she was attacked by a Japanese patrol plane, a torpedo boat, and finally depth charged by a sub chaser. Seventy-two perished, one additional man was killed in an earlier action.
All hands lost.

USS *GRAMPUS* (SS 207)
71 officers and men on board.
Lost on March 5, 1943 while engaging two Japanese destroyers in Vella Gulf.
All hands lost.

USS *TRITON* (SS 201)
74 officers and men on board.
Lost on March 15, 1943 north of the Admiralty Islands during a fight with three Japanese destroyers.
All hands lost.

USS *SCORPION* (SS 278)
77 officers and men on board.
Lost on January 5, 1944 in the East China Sea during her fourth war patrol. It is assumed *Scorpion* struck a mine.
All hands lost.

USS *GRAYBACK* (SS 208)
80 officers and men on board.
Lost on February 26, 1944 when she was apparently caught on the surface in the East China Sea, the sad recipient of a bullseye by a Japanese carrier bomber.
All hands lost.

USS *TROUT* (SS 202)
81 officers and men on board.
Lost on February 29, 1944 in the middle of the Philippines Basin when she was sunk by escorts after attacking a convoy.
All hands lost.

USS *TULLIBEE* (SS 284)
80 officers and men on board.
Lost March 26, 1944 after being struck by a circular run of one of her own malfunctioning torpedoes. A lookout was her only survivor; taken prisoner, he ultimately survived the war as a Japanese POW.
79 men lost.

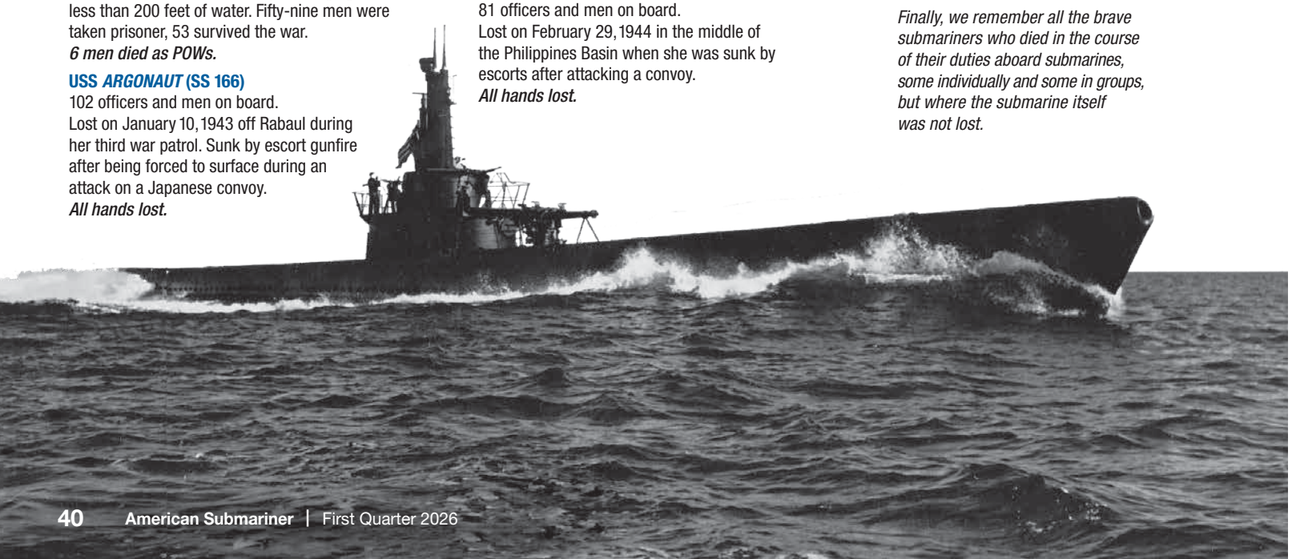
USS *SWORDFISH* (SS 193)
89 officers and men on board.
Lost on January 12, 1945 probably to a mine somewhere near Okinawa.
All hands lost.

USS *BARBEL* (SS 316)
81 officers and men on board.
Lost on February 4, 1945 probably during a Japanese air attack off the southern entrance to Palawan Passage. Just the day before, she had reported having survived three depth charge attacks.
All hands lost.

USS *TRIGGER* (SS 237)
89 officers and men on board.
Lost on March 28, 1945 as a result of a combined effort by Japanese naval and air anti-submarine forces.
All hands lost.

USS *KETE* (SS 369)
87 officers and men on board.
Lost on March 20, 1945 probably sunk by a Japanese submarine near Okinawa, which itself was subsequently lost.
All hands lost.

Finally, we remember all the brave submariners who died in the course of their duties aboard submarines, some individually and some in groups, but where the submarine itself was not lost.



UPCOMING BOAT REUNIONS

USS Abraham Lincoln (SSBN 602)
May 14-17, 2026
Springfield, IL
Tom Ponko • (757) 630-8775
ponko_a2zinc@msn.com

Send all reunion notices to:
editor@americansubmariner.org

Deadline for the next issue is March 1, 2026.

Notices received after deadline will be accommodated on a space-available basis.

USS Caiman (SS 323)
May 11-14, 2026
Nashville, TN
Doug Smith • (360) 731-5233
dbfrider@comcast.net

USS Chivo (SS 341)
October 18-21, 2026
Myrtle Beach, SC
Stan Pollard • (330) 749-7151
341.stan@gmail.com

USS Darter (SS 576)
April 30-May 3, 2026
Little Rock, AR
Larry Drake • (407) 466-1723
ldrake@tds.net

USS James J. Polk (SSN/SSBN 645)
September 24-27, 2026
Groton, CT
Mike McGinn •
president@ussjameskpolk.org

USS Patrick Henry (SSBN 599)
July 30-August 2, 2026
Silverdale, WA
Dale Dietz • (434) 944-4134
daledietz68@gmail.com

USS Robert E. Lee (SSBN/SSN 601)
September 23-27, 2026
Bremerton, Washington
Joe White • (405) 410-9206
joewhite727@gmail.com

USS Sennet (SS 408)
October 18-21, 2026
Myrtle Beach, SC
Stan Pollard • (330) 749-7151
408.stan@gmail.com

USS Swordfish (SSN 579)
May 14-17, 2026
San Diego, CA
Ernie Sittaro • (586) 337-0418
esittaro@comcast.net

The Deep Submergence Group Assn.
September 17-20, 2026
Groton, CT
Will Longman • (206) 963-1808
reunioncoordinator@deepsubmergencegrp.org

WELCOME NEW MEMBERS!

Last Name	First Name	Qualified	Boat
Page	Daniel R.	2001	Albany
Hurley	Mitch	1976	Alexander Hamilton
Crocker	Kendall B.	1967	Archerfish
Christie	James	1993	Aspro
Cantral	Gary	1958	Bang
Carr	George R.	1977	Billfish
Dunn	Thomas Albert	1975	Billfish
Benaglio	Anthony	2015	California
Hasse II	Alfred F.	1983	Casimir Pulaski
Patterson	Charles	2000	Charlotte
Reynolds	Robert F.	1963	Croaker
Buckley	Michael C.	1993	Dallas
Jabaley Jr.	Michael E.	1988	Drum
Hutchings	Michael	1964	Ethan Allen
McQueen	Dennis L.	1977	Flying Fish
Brown	Ronald	1984	Gato
French	James T.	1987	Georgia
Kahn	Steven K.	1986	Grayling
Giacalone	Dennis	1970	Greenfish
Richards	David L.	1984	Groton
Austin	Daniel A.	1980	Guitarro
Staub	Kevin	1986	Guitarro
Stetter	Michael	1976	Guitarro
Dickerson	James Michael	1990	Henry L. Stimson
Sanner Jr.	William O.	1973	Henry L. Stimson
Kammerer	Sean	1987	Henry M. Jackson
Arena	John	1975	Jack
Pax	Jim	1974	Jack
Hoffman	George	1997	James K. Polk
Clardy	Larry	1978	James Madison
Stell	James	1985	John Adams
Stevens Jr.	George A.	1976	John C. Calhoun
Watson	Vernon	1974	John C. Calhoun
Kucinski	Joseph John	1968	John Marshall
Bottis	Nicholas A.	1974	Kamehameha
Lohman	Jack L.	1964	Lafayette
Brantley	Arnell	1998	Louisiana
Eastabrook	Kennedi	2021	Maine
Ball	Brian	1993	Mariano G. Vallejo
Thomas	Olin E.	1975	Mariano G. Vallejo
Breffle	Bryan	1986	Michigan
Nichols	Mikqual Jordei	2006	Minneapolis-St. Paul
Polega	Matthew	2000	Montpelier
King	Robert E.	1967	Nathan Hale
Smith	Allen	1976	Nathan Hale
Passen	Steven E.	1976	Nathanael Greene
Rocha	Ben	1992	North Carolina
Michael	Kevin	2015	Olympia
Nelson	Brian C.	1974	Parche
Goodman	Douglas	1991	Pargo
Stiles	Edgar	1988	Pargo
Krause	John	1981	Permit
Hiner	Brian	2001	Philadelphia
Johanson	Lewis E.	1979	Puffer
Hill	Dennis	1958	Rasher
Patrick	Darl P.	1958	Sablefish
Gray	Arthur Taylor	2005	Salt Lake City
Brotheim	Hal	1979	Sam Houston
Brown	Philip E.	1971	Seahorse
Dixon	Darnell	1972	Seahorse
Hoffman	Michael A.	1986	Shark
Buck	Micah N.	2025	South Dakota
Newbigging	Wayne	1968	Stonewall Jackson
O'Connor	Brian	1973	Stonewall Jackson
Keaney	Thomas	1969	Sturgeon
Sittaro	Ernest Jack	1952	Tench
Muirhead	William J.	1968	Theodore Roosevelt
Peterson	David W.	1977	Theodore Roosevelt
Archer	Raymond A.	1971	Thomas A. Edison
Horne	Roy Q.	1978	Thomas Jefferson
Moore	Charles	1962	Thornback
Brown	William Earl	1977	Trout
Salitis	John	1983	Tullibee
Lydick	Ralph B.	1982	Von Steuben
Marshall	George E.	1981	Von Steuben
Sweatt	Melvin L.	1988	Von Steuben
Dillon	Christopher B.	1989	Will Rogers
Mainville	Adam	1991	Will Rogers
Trull	Phillip N.	1980	Will Rogers
Day	William C.	1983	Woodrow Wilson
Lembeck	Conor	2017	Wyoming
Ashcraft	Paige		Associate
Baird	Amanda		Associate
Bowman Jr.	Dale E.		Associate
Brawner	Michael		Associate
Davis	Kemmer Jr.		Associate
Davis	Penelope Kay		Associate
Ferranti	Kelley		Associate
Fierro	Teresa		Associate
Gilles	Velma		Associate
Glaser	Kyle		Associate
Howard	Kathleen		Associate
MacPherson	Debra		Associate
McClintock	JoAnne		Associate
Plomondon	Nora		Associate
Rogers	David		Associate
Tran	Yen		Associate
Wagers Sr.	Gary R.		Associate
Ware	Barbara		Associate
West	Valerie A.		Associate
White	John B.		Associate
Williams	Marlyn		Associate

USSVCF Scholarships Make New Lives Happen

Applications now open for 2025/26 academic year

Since 2000 the USSVI Charitable Foundation has led a successful effort to recognize U.S. submariners of all eras by providing charitable assistance in various forms for submarine veterans and their families.

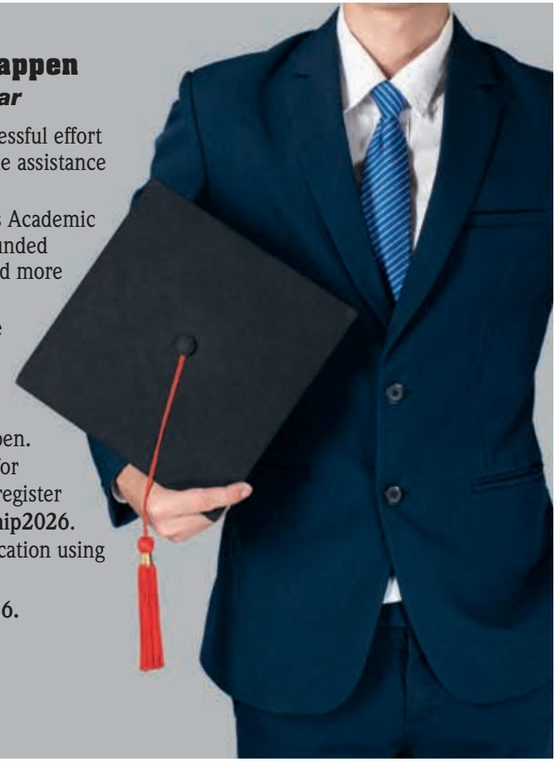
Perhaps the best-known version of this assistance is USSVI's Academic Scholarship Program, which has continued to become better funded over the years, providing educational opportunities for more and more qualified applicants.

For 2026/27, a new category has been established for those eligible applicants seeking scholarships for trade, technical, career education and apprenticeship programs at accredited institutions. Age is not a limiting factor.

The application period for the next academic year is now open. Interested parties can visit **bit.ly/ussvcf-scholarshipinfo2026** for information about eligibility and the application procedure. To register and begin the application process, go to **bit.ly/ussvcf-scholarship2026**. Only the student applicant may register and complete the application using their email address.

Completed applications must be received by May 18, 2026.

For questions and further information, contact:
Dr. Alan G. Fickett, Ph.D.
Chairman, Academic Scholarship Program
email: scholarship@ussvcf.org



ETERNAL PATROL

There is a port of no return, where ships
May ride at anchor for a little space
And then, some starless night the cable slips,
Leaving an eddy at the mooring place...
Gulls, veer no longer. Sailor rest your oar.
No tangled wreckage will be washed ashore.

Alfonso Agolio
Ledyard, CT
Qualified USS Will Rogers 1980
Eternal Patrol 2/11/2021

John A. Appleman
Bloomington, IL
Qualified USS Jallao 1957
Eternal Patrol 9/16/2025

Robert P. Ashley
The Villages, FL
Qualified USS Cavalla 1962
Eternal Patrol 10/1/2025

John T. Bond
Linden, MI
Qualified USS Scamp 1972
Eternal Patrol 9/28/2025

B. David Brooks
Panama City Beach, FL
Qualified USS Wahoo 1958
Eternal Patrol 1/9/2025

John T. Brotherton
Summerville, SC
Qualified USS Hawkbill 1974
Eternal Patrol 10/12/2025

Raymond Brown
Manchester, CT
Qualified USS Bashaw 1949
Eternal Patrol 10/10/2025

John Buchanan
Ellenton, FL
Qualified USS Sturgeon 1967
Eternal Patrol 8/31/2025

Landon Dennison MD
Hinesburg, VT
Qualified USS Abraham Lincoln 1964
Eternal Patrol 10/10/2025

John W. Donkus
Boiling Springs, PA
Qualified USS Corsair 1956
Eternal Patrol 9/23/2025

Samuel W. Edwards
Pensacola, FL
Qualified USS Batfish 1953
Eternal Patrol 3/25/2021

Lowell R. Everett
Bremerton, WA
Qualified USS Volador 1951
Eternal Patrol 5/14/2017

Antonio William Faella
Kingston, RI
Qualified USS Spearfish 1943
Eternal Patrol 10/23/2025

Lowell Fein
Fort Wayne, IN
Qualified USS Patrick Henry 1968
Eternal Patrol 10/5/2025

James Jeremiah Fields
Greendale, WI
Qualified USS Sennet 1946
Eternal Patrol 9/21/2025

Donald J. Fortunato
Danvers, MA
Qualified USS Cavalla 1960
Eternal Patrol 6/9/2025

Creighton Gogos
Biddeford, ME
Qualified USS Tusk 1947
Eternal Patrol 8/13/2021

Steve H. Good
Ewa Beach, HI
Qualified USS Barb 1966
Eternal Patrol 10/3/2025

Craig A. Gross
Logandale, NV
Qualified USS Aspro 1975
Eternal Patrol 5/7/2025

Paul Heistand
Marysville, WA
Qualified USS Thomas Jefferson 1976
Eternal Patrol 6/14/2025

Donald H. Hulse
Pocatello, ID
Qualified USS Halibut 1961
Eternal Patrol 9/24/2025

John J. Jenkins Jr.
La Mesa, CA
Qualified USS Tunny 1959
Eternal Patrol 10/25/2025

Edward Jones
Port Ludlow, WA
Qualified USS Sterlet 1951
Eternal Patrol 5/27/2024

James Roger Jones
Shepherd, MI
Qualified USS Balao 1956
Eternal Patrol 8/23/2025

Robert Jones
Idaho Falls, ID
Qualified USS Diodon 1955
Eternal Patrol 7/8/2025

Thomas R. Kallmann
Florida City, FL
Qualified USS George Bancroft 1967
Eternal Patrol 11/14/2025

Stanley K. Keach
Albuquerque, NM
Qualified USS Pintado 1971
Eternal Patrol 10/25/2025

Walter Sebastian Kraus
Crescent Springs, KY
Qualified USS S-36 1941
Eternal Patrol 10/10/2025

Johann Krenzer
Eastpointe, MI
Qualified USS Corporal 1956
Eternal Patrol 11/5/2025

Francis C. Larvie
Boise, ID
Qualified USS Tirante 1954
Eternal Patrol 8/5/2025

John H. Leonatti
Dunkirk, MD
Qualified USS Guitarro 1987
Eternal Patrol 9/21/2025

Wayne J. Levie
Fernley, NV
Qualified USS Bashaw 1963
Eternal Patrol 5/8/2025

Dale Liggett
Ripley, ME
Qualified USS Sea Poacher 1959
Eternal Patrol 5/6/2025

William Edward Lister
Edinburgh, IN
Qualified USS Tullibee 1943
Eternal Patrol 7/25/2025

Steven C. Lorentz
Lincoln, DE
Qualified USS James Monroe 1984
Eternal Patrol 7/6/2025

Charles R. MacVean
San Diego, CA
Qualified USS Tinosa 1965
Eternal Patrol 9/10/2025

Larry Roy Marsh
Front Royal, VA
Qualified USS Cubera 1966
Eternal Patrol 10/31/2025

Timothy Mazza
Bellville, NJ
Qualified USS William H. Bates 1974
Eternal Patrol 10/8/2025

Douglas McCunn
North Merrick, NY
Qualified USS Grayling 1971
Eternal Patrol 11/29/2025

James M. McDonald
Norfolk, VA
Qualified USS Daniel Boone 1971
Eternal Patrol 9/28/2025

Paul E. McElhaney
North Ridgeville, OH
Qualified USS Thomas A. Edison 1962
Eternal Patrol 10/9/2025

Jose E. Molina
San Antonio, TX
Qualified USS Cabezon 1951
Eternal Patrol 10/20/2023

James R. Murdock Jr.
Rimrock, AZ
Qualified USS Salmon 1973
Eternal Patrol 9/29/2025

Richard M. Noble
Cleveland, TN
Qualified USS Tiru 1961
Eternal Patrol 10/9/2025

William Nodine
Lanoka Harbor, NJ
Qualified USS Tench 1956
Eternal Patrol 9/27/2025

James L. Norton
Smithfield, VA
Qualified USS Barbero 1962
Eternal Patrol 9/1/2025

Robert A. Nosler
Bend, OR
Qualified USS Nathan Hale 1967
Eternal Patrol 9/2/2025

John T. O'Connell Jr.
Mansfield, MA
Qualified USS Blenny 1968
Eternal Patrol 11/5/2025

Dennis Olson
Tucson, AZ
Qualified USS Guitarro 1975
Eternal Patrol 9/15/2025

Edwin C. Parry III
Federal Way, WA
Qualified USS Halibut 1966
Eternal Patrol 8/1/2023

Raymond K. Pease
McKenzie, TN
Qualified USS Bashaw 1955
Eternal Patrol 10/9/2024

Robert A. Perritt
Groton, CT
Qualified USS Thomas Jefferson 1971
Eternal Patrol 10/13/2025

George W. Pilley
Blackfoot, ID
Qualified USS Tecumseh 1969
Eternal Patrol 5/16/2025

Thomas G. Reed
Shelton, WA
Qualified USS Bashaw 1961
Eternal Patrol 3/23/2022

Roger A. Reeves
Downingtown, PA
Qualified USS Dogfish 1956
Eternal Patrol 10/21/2025

David Robinson
Saxtons River, VT
Qualified USS Will Rogers 1968
Eternal Patrol 7/11/2025

William M. Rodgers
Pittsburgh, PA
Qualified USS Razorback 1964
Eternal Patrol 11/20/2025

Paul L. Sable
Venice, FL
Qualified USS Blackfin 1960
Eternal Patrol 9/16/2025

Robert Scairpon
Seaside Heights, NJ
Qualified USS Bonita (was K3) 1958
Eternal Patrol 10/9/2025

Larry E. Shamus
Bangkok, Thailand
Qualified USS Cavalla 1964
Eternal Patrol 8/28/2025

Dennis A. Smith
Newberg, OR
Qualified USS Barbel 1963
Eternal Patrol 11/2/2025

Harry C. Starr Jr.
Lake Havasu City, AZ
Qualified USS Queenfish 1959
Eternal Patrol 5/30/2022

Walt Strzelewicz
Prescott, AZ
Qualified USS Seahorse 1971
Eternal Patrol 9/29/2025

Gerald A. Stuart
Bremerton, WA
Qualified USS Harder 1960
Eternal Patrol 7/29/2024

Richard T. Sweeney
Scarborough, ME
Qualified USS Angler 1956
Eternal Patrol 8/26/2025

Stuart W. Temple
Wethersfield, CT
Qualified USS Robert E. Lee 1976
Eternal Patrol 6/23/2025

Angelo F. Terrizzi
Bedford, MA
Qualified USS Entemedor 1960
Eternal Patrol 9/4/2025

James A. Thompson
Belfair, WA
Qualified USS Sea Fox 1958
Eternal Patrol 8/24/2023

Peter Thompson
Livonia, MI
Qualified USS Jallao 1967
Eternal Patrol 5/28/2025

Bonaventure Turri
Freeland, PA
Qualified USS Amberjack 1964
Eternal Patrol 11/16/2025

Kenneth C. Vining
Waterford, CT
Qualified USS Amberjack 1956
Eternal Patrol 12/18/2025

James L. Wall
Congress, AZ
Qualified USS Caiman 1961
Eternal Patrol 7/14/2023

Benjamin P. Ward Jr.
Gulfport, MS
Qualified USS Cero 1953
Eternal Patrol 11/1/2025

Larry G. Warthen
Seaback, WA
Qualified USS Alexander Hamilton 1970
Eternal Patrol 11/4/2023

Ronald A. Weaver
Murrysville, PA
Qualified USS Ray 1972
Eternal Patrol 11/30/2025

Harold S. Weston Jr.
Virginia Beach, VA
Qualified USS Triton 1963
Eternal Patrol 10/8/2025

Murrell Rex Wilson
Cottageville, SC
Qualified USS Queenfish 1956
Eternal Patrol 3/20/2025

William J. Woodman
Yuma, AZ
Qualified USS Dogfish 1953
Eternal Patrol 5/22/2024

Edward P. Zdarko
Titusville, PA
Qualified USS Angler 1959
Eternal Patrol 8/22/2025

IN MEMORIAM

Bruce W. Dart
Stuttgart, AR
Associate
Passed 8/1/2025

FUNDS NEEDED

BUILDING FUND TO DATE	NEEDED TO COMPLETE	STEM EDUCATION GOAL	ENDOWMENT GOAL
$7.8M	$800K	$700K	$500K

Help Us Complete the USS Cincinnati Cold War Memorial—Peace Pavilion

The Memorial will serve as a lasting tribute to those who served during the pivotal Cold War era. Currently under construction in a Cincinnati park that welcomes nearly 600,000 visitors annually, it is scheduled to be dedicated in May 2026. Its mission is threefold: to honor the past, engage and educate, and inspire future leaders and innovators to uphold America's strength, security, and competitive edge.

We still need your support—$800K to complete construction, $700K for educational programs, and $500K for an endowment for ongoing maintenance.

Double your impact: donations of $100 or more will be matched dollar for dollar. Contributions of $10,000 or more will receive permanent recognition.

Donate or learn more at www.SUBCINCY.org.

All donations to the USS Cincinnati Memorial are tax-deductible under IRC §501(c)(3), subject to current IRS rules.

Dive into Adventure at the 2026 USSVI National Convention in Corpus Christi, Texas!

Join Us From September 6-11, 2026

PLAN NOW

Start planning your trip now so you can soak up everything the Texas Gulf Coast offers. Reconnect with old shipmates, forge new friendships, and dive into engaging learning sessions. Browse the subvet vendor hall and explore local merchants. Return home refreshed and inspired, with cherished memories that will last a lifetime.

BOOK NOW

To register or find out more about convention events and local area attractions, visit **subvetconvention.org**

OMNI CORPUS CHRISTI HOTEL

Located on Corpus Christi Bay, Omni Corpus Christi Hotel offers accommodations with ocean views and close proximity to area attractions.

- Special Tolling the Boats ceremony followed by a BBQ on the USS *Lexington*.
- Submarine veteran speaker series.
- Informative meetings and workshops.
- Shopping discounts at local area businesses.
- Numerous tours and unique events.

USSVI 2026 National Convention

@2026ussviconvention

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