The Monthly Newsletter of Perch Base - USSVI
Phoenix, Arizona
www.perch-base.org

May 2010
Volume 16 - Issue 5

What's "Below Decks" in the MidWatch

Lest We Forget Those Still On Patrol

USSVI Creed: "***To perpetuate the memory of our shipmates who gave their lives in the pursuit of 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.*"

MAY ETERNAL PATROLS

USS GUDGEON (SS-211) 12 May 1944 78 Lost
Japanese Air/Surface Attack in Northern Marianas

USS LAGARTO (SS-371) 04 May 1945 85 Lost
Japanese Surface Attack in Gulf of Siam

USS SCORPION (SSN-589) 22 May 1968 99 Lost
Possible Torpedo Detonation off Azores

USS SQUALUS (SS-192) 23 May 1939 26 Lost
Foundered off Portsmouth, New Hampshire (boat salvaged and re-commissioned under a new name)

NEXT REGULAR MEETING
12 noon, Saturday, May. 8, 2010
American Legion Post #105
3534 W. Calavar Rd., Phoenix, AZ 85053

2010 Perch Base Foundation Supporters

Perch Base, USSVI, cannot support its on-going operations and provide funds for the Base's float activities on dues alone. While the Base tries to develop activities to raise additional funds, we salute the members, listed below, who have supported the base by making contributions to the Perch Base Foundation. **Remember, if you contribute by check, it must be made out to the "Perch Base Foundation."**

These are the 2010 Foundation Supporters

Allston, Jerry N.
Asbell, F. J. "Ted" (in memory of)
Bartlett, Gary
Bernier, Richard
Beyer, Ronald B.
Braastad, Wayne A.
Brooks, Edgar T.
Butler, Bradley L.
Carpenter, David
Cooper, James J.
Cousin, Roger J.
Denzien, James R.
DeShong, Billy.
Doyle Jr., Warner H.
Ellis, Harry
Errante, Joe
Evans, James
Fooshee, Thomas E.
Graves, John A.
Grieves, Billy
Heller, Harry
Herold, Glenn A.
Hillman, Lester R
Hough, Steve.
Hunt, Theodore
Jones, Davey
Keating, L. A. (Mike)
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Lancendorfer, Robert A
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Martin, Terry
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Zomok, Ronald J.

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Sailing Orders

Next Meeting: Special Guest Speaker Bob "BJ" Johnson, a member of the Chosin Veterans Group

The Battle of Chosin Reservoir, also known as the Chosin Reservoir Campaign was a decisive battle in the Korean War. Shortly after the People's Republic of China entered the conflict, the People's Volunteer Army infiltrated the northeastern part of North Korea and surprised the US X Corps at the Chosin Reservoir area. A brutal seventeen day battle in freezing weather soon followed. In the period between 27 November and 13 December 1950, 30,000 United Nations (UN) troops (nicknamed "The Chosin Few") were encircled by approximately 60,000 Chinese troops. Although the Chinese managed to surround and outnumber the UN forces, the UN forces broke out of the encirclement while inflicting crippling losses to the Chinese. The evacuation from the port of Hungnam marked the complete withdrawal of UN troops from North Korea.

May 15, 2010:

Flagstaff, AZ Veterans Parade

Float will be used.

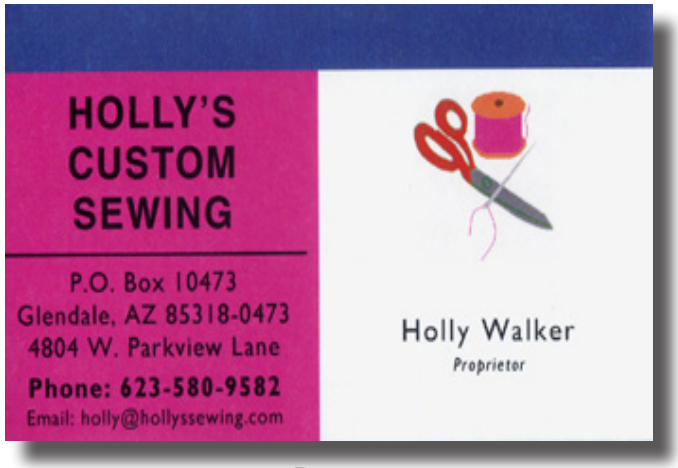
May 31, 2010:

Annual Memorial Day Ceremony

Phoenix Memorial Cemetery

(THIS IS A MUST FOR ALL MEMBERS!)

Our Generous Sponsors
Use Them - Show Them We Appreciate the Help!



This is a Way for the Base to Make Money!

American Home Maintenance will donate $100.00 to Perch Base for every referral that results in an air conditioning sale. Summer is quickly approaching, please let your friends, family, church members and business associates know about this referral program.

There is also deals for estimate service, new equipment, air duct cleaning and other everyday stuff a home owner needs. Contact Tim Moore (see below) for more details.

Tim Moore

secretary@perch-base.org
seawolfssn@q.net
(602) 574-3286

From the Wardroom
Base Commander's Message

Shipmates:

The all AZ bases picnic on April 10th was a huge success. There were approximately 75 people who attended and all bases were represented. Jim Dunn, Western Region Director, and Dave Linker, Western District 2 Commander were present as our guests. Additionally, Karen Keene-Gilson, a friend of Rick Simmons and a "Thresher Daughter" was an honored guest and she assisted in the Tolling Ceremony. Karen made a special trip from Talkeetna AK to be with us.

The static displays at Home Depot on April 10th and at the Peoria Sports Complex for Navy Week on March 26th were also big successes. BRAVO ZULU to all shipmates who contributed to the success of these events!

Perch Base will be participating in the Armed Forces Day Parade in Flagstaff on May 15th. If you would like to participate, contact Howard Doyle for details.

A sad note: our past Base Commander, Stan Reinhold, will be leaving the area; he has taken a position in La Jolla CA. We wish Stan and his wife Jane "fair winds and following seas."

The next meeting is May 8th and we have guest speakers: Marines from the "Chosin Few" veterans group. Be a shipmate and join us.

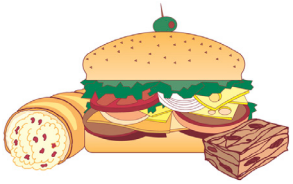
Fraternally,

Jim Denzien, Base Commander

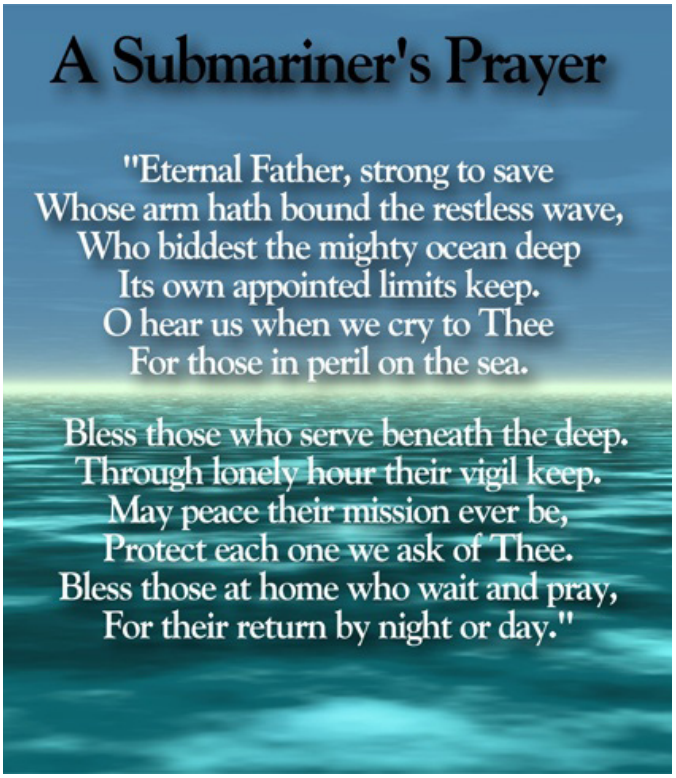
April
All-Arizona Bases Picnic

The All-Arizona Base picnic was held on April 10 at the White Tanks Regional Park. Surprisingly, the attendance by Perch Base members was relatively low considering our Base's size and "home field" location.

A few of the photos of the event are here. To see more, log on the Perch Base web site [www.perch-base.org.](http://www.perch-base.org)



Chaplain's Column



Do you know a shipmate who is on the lee side of a fair wind? Someone who could use the help of a shipmate? Remember, we are the "**Brotherhood** of the Phin."
Contact our Base Chaplain if you know of any way we can help:

Walt Blomgren
5120 W. Gelding Dr.
Glendale, AZ 85306
(602) 309-4407
chaplain@perch-base.org

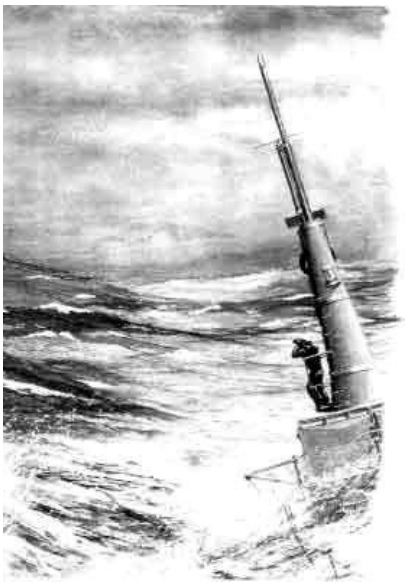
ETERNAL PATROL PREPARATIONS

Shipmates, while we hope your day and those of your shipmates is far off in the future, we must nevertheless prepare. Please copy this notice (in the box immediately below) and place it with your will or important papers.

IMPORTANT

In the case of my death, please immediately notify the U.S. Submarine Veterans Inc., (USSVI) at 877-542-3483 or 360-337-2978 and give the person on duty the information regarding my death, funeral, and burial arrangements, plus who they can contact for follow-up and support.
Please ask them to contact my local chapter's Base Commander with this information as well (they can look it up in their membership records).
This information can alternatively be E-Mailed to the National Office at "office@ussvi.org".

But remember, your family should always notify the Base Chaplain first. He and your local shipmates can help!!



Shipmate to Shipmate

Now, This Ain't no Sh*t . . .

We are starting a new feature in this month's Mid-Watch and we're going to need you help! All of us have heard the one about the difference between a fairy tale and a sea story. The fairy tail starts, "Once upon a time," and a sea story starts, "Now this ain't no sh*t!"

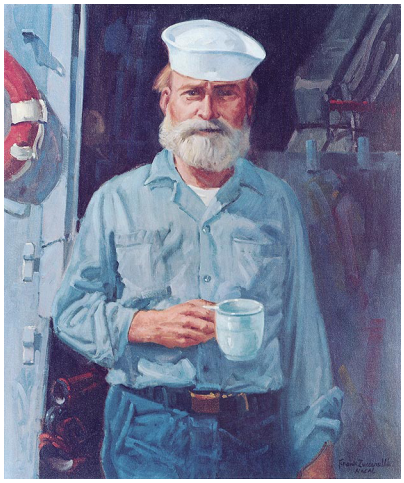
Well, that's what we are looking for; sea stories. And they only need to be as true as a sea story ALWAYS is!

So send something in. Here are the rules (or not, whatever):

1. We can use your name or not: your choice just let me know.
2. Grammar and spelling DO NOT COUNT. I will edit and change just enough to make it somewhat readable!
3. Remember, this is from "boat" sailors to "boat" sailors. BUT, since this publication may fall into skimmer hands (or worse, decent civilians!,) I may have to substitute punctuation marks in place of letters in certain words, as in the title.
4. There is absolutly no limit on how many you can send in. I will publish AT LEAST one each month as we get them.

So send them to:

Chuck Emmett
communications@perch-base.org
or
7011 West Risner Road
Glendale, AZ 85308.



Shipmate to Shipmate Stories that are "absolutly, positively, the truth!"

Approximately three months after my arrival on Amberjack, we departed on a North Atlantic barrier patrol. I appeared to be a permanent member of the "After Battery Rats", hot bunking in the depths of Hogan's Alley, where the smelly socks and dirty skiveys hung out, and very little air circulated.

In port I was a member of the deck force and stood security watches topside. At sea, I was a helmsman, plainsman, lookout. As a non-qual, I spent 4 hours on watch, followed by 4 hours qualifying, and 4 hours performing preventive maintenance on the equipment and cleaning the heads, and sleeping, followed by another 12 hour shift, and another, and another.

At night, it was running on the surface with all four engines charging batteries, and two look-outs and the OOD on the bridge. The helmsman in the conn did his job under the watchful eyes of QM-1 Harnish.

As we approached the area between Iceland and Russia the weather picked up, the waves tossed us like skilless surfers in the ice strewn waters. The waves were so high that we had to snorkel on the surface to keep the head valve above the waves.

The bridge personnel were dressed in long johns covered by dungarees, foul weather pants and jackets and emergine suits and huge rubber boots and were chained to the bridge. Look-outs stood 30 minute watches on the bridge, one at a time, 30 minutes on the bridge, 30 minutes on the helm, and 30 minutes running coffee.

We had a step-sail, where the look-out's head was 20-30 feet below the head valve. Every few minutes a wave shut the snorkel head valve. That meant the lookout, and the OOD were under water several times an hour. Sometimes, 20-30 feet under water as a wave broke over us. I was so scared, and so wet, and so cold. The outside suit leaked, and filled with ice water.

I prayed to everybody's God that I ever heard of and promised all my unborn children to tree gods and Allah. These days I listen to the people whining about us using water-boarding on terrorists and I have to laugh. I was more or less innocent and they don't even get pulled 20 feet deep in ice water several times an hour, with their eyes wide open, for several weeks. I would have given up beer and women forever, let alone confess to any crime someone could think of. DIESEL BOATS FOREVER!

I was so-so-so happy to get orders to a Boomer after I left Amberjack that I stayed for 8 1/2 years and made 11 patrols. Actually, I really did enjoy the Amberjack, after I finally got qualified and promoted.

I had a really hard time with quals. It had to do with my total lack of mechanical ability. I never met a bolt that I couldn't strip or torque the head off. I went through the mechanical drawing course in grade school so often they were going to transfer me to cooking and sewing class. Thank God for Sonar!

Submitted by shipmate Davy Jones

Thanks Perch Base

Jim Denzien

From: Jack Messersmith [messer109@q.com]
Sent: Monday, March 29, 2010 6:41 PM
To: Perch-Jim Denzien; Jim Dunn -West Reg
Subject: Fw: small world

----- Original Message -----
From: Shane Foraker
To: Jack Messersmith
Sent: Monday, March 29, 2010 6:30 PM
Subject: small world

Jack - Friday, 26 March, my son, Eric, was in Phoenix for a weekend of professional seminars. He is a Marriage and Family Therapist in Las Vegas - there's some job security!. He planned the trip to include a spring training game at the Seattle Mariners.
He was very pleasantly surprised to see the Perch Base guys at the ball park with their boat model on display. He had a great conversation with them, and I'd like to pass on to you the positive effect their presence had on at least one spectator. Their efforts paid off for SubVets and the community.

Fraternally;
Shane Foraker
Commander, White Sands Base.

4/7/2010

A Cold War "Did You Know?"

This from a Brother of The Phin that served aboard Queenfish in the '70s. When I rode Guardfish in early '70s we operated a lot with Queenfish. He tells of a harrowing experience in response to a query from SubVets to relate stories of excursions beyond test depth. Some of the boats went REALLY deep, far beyond tested safety boundaries, and not always of their own choice. Some stories of incredible courage and bravery have emerged about near disasters that were averted because of crew training. Those relentless flooding and collision drills really do save ships.

This is an amazing story that I was not aware of prior to it being sent to me. I'm so glad I wasn't on board when this occurred.

In August of 1976, we had just completed 2 Spec Ops "up north" and were in Guam tied up next to the tender Proteus. We had just gotten word that two Army officers had been hacked to death by N. Korean Army personnel along the DMZ.

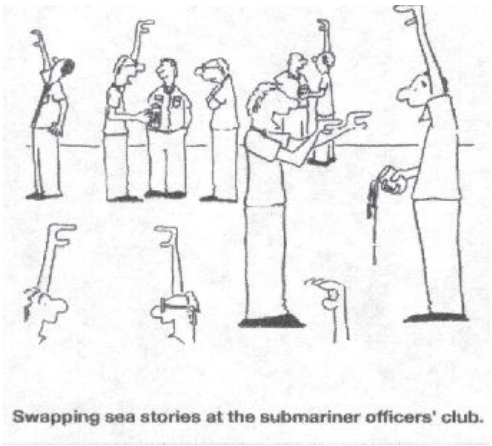
We were ordered to head to sea again in our normal area of operations (Petropavlask). A few days into our mission, we were observing Soviet Naval exercises. We were right between two Russian surface warships, when one shot an exercise torpedo at the other. At 67 feet, our number one attack scope was just two or three feet above the water. The Officer of the Deck saw the torpedo coming at us and it looked like it was going to make impact with our sail. He ordered emergency deep and the torpedo just barely cleared the sail.

On the way down, we collided with a "Juliet" class Russian sub and its' prop tore gashes into our port side 1, 2, and 3 main ballast tanks. Needless to say, we descended a lot quicker and at a far greater angle than the OOD liked. He ordered the Chief of the Watch to emergency blow all main ballast tanks, but when he tripped the levers, nothing happened.

This was happening just before mid watch, so mid rats were flying all over the crew's mess because we were at about a ninety degree down bubble. We actually got close to 2,100 feet before the 3,000 pound air in the MBT blow system kicked in.

Now, everything was flying aft as we headed to the surface quite rapidly. We broached the boat, but since it was a dark, moonless night, we were able to limp away from the AOO at 15 degree list to port. We were able to get the boat back to Guam on the surface, but it took awhile because we could only cruise at a one third bell, making turns for six knots.

Just an interesting story about the Queenfish during the Cold War with the USSR. I imagine the old girl has been turned into razor blades by now.



Swapping sea stories at the submariner officers' club.

Perch Base May Birthdays

Stanley N. Reinhold	May 7
Harry Heller	May 8
Ramon Samson	May 8
Ronald B. Beyer	May 12
Joseph J. Hawkins	May 18
George Debo	May 21

What's New Online

The Perch Base web site (www.perch-base.org) is always being upgraded and improved. Some of the latest changes:

- The "Photos Page" has been totally revamped and upgraded. Take a look and see the new look.
- Pictures of "All-Arizona" Picnic at the White Tanks Regional Park on April 10. A great turn-out with all of the Arizona Bases.
- We're still running the link that gives a full panoramic view of each compartment on the museum boat USS Pomponito (SS-383), moored in San Francisco. On the main web page, click on "LINKS" on the left.

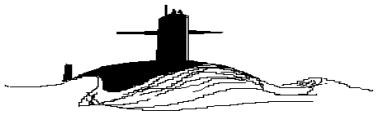
Eternal Patrol
May 22, 1968

Editors Note: ***Less we forget, each month, one boat on eternal patrol will be highlighted in this newsletter. Sailors, rest your oars.***

USS Scorpion (SSN-589)
May 22, 1968
99 men lost

The Final Patrol

Lord, this departed shipmate with dolphins on his chest
Is part of an outfit known as the best.
Make him welcome and take him by the hand.
You'll find without a doubt he was the best in all the land.
So, heavenly Father add his name to the roll
Of our departed shipmates still on patrol
Let them know that we who survive
Will always keep their memories alive.



Class and type: Skipjack
Launched: Dec. 29, 1959, Comm: July 29, 1960
Displacement: 2,880 tons (surf.), 3,500 tons (sub.)
Length: 252'; Beam: 31'10"; Draft: 29'10"
Propulsion: S5W reactor, Single Propeller 1
Speed: 15 knots (surf.),30 knots (sub.)
Complement: 8 officers, 75 men
Armament: 6 × 21 in torpedo tubes

USS Scorpion (SSN-589) was a Skipjack-class nuclear submarine of the United States Navy, and the sixth ship of the U.S. Navy to carry that name. Scorpion was declared lost on 5 June 1968,[2] one of the few U.S. Navy submarines to be lost at sea while not at war and is one of only two nuclear submarines the U.S. Navy has ever lost, the other being USS Thresher (SSN-593), which sank on 10 April 1963 off the coast of New England.

Service history

Scorpion's keel was laid down on 20 August 1958 by the Electric Boat Division of the General Dynamics Corporation in Groton, Connecticut. She was launched on 19 December 1959, sponsored by Mrs. Elizabeth S. Morrison (daughter of the last commander of the World War II-era USS Scorpion, which had been lost with all hands in 1944), and commissioned on 29 July 1960, Commander Norman B. Bessac in command.

1960 – 1967

Assigned to Submarine Squadron 6, Division 62, Scorpion departed New London, Connecticut, on 24 August for a two-month deployment in European waters. During that period, she participated in exercises with units of the 6th Fleet and of other NATO navies. After returning to New England in late October, she trained along the eastern seaboard until May 1961, and then crossed the Atlantic again for operations which took her into the summer. On 9 August 1961, she returned to New London, and, a month later, shifted to Norfolk, Virginia. In 1962, she earned the Navy Unit Commendation.

With Norfolk her home port for the remainder of her career, Scorpion specialized in the development of nuclear submarine warfare tactics. Varying her role from hunter to hunted, she participated in exercises which ranged along the Atlantic coast and in the Bermuda and Puerto Rico operating areas; then, from June 1963-May 1964, she interrupted her operations for an overhaul at Charleston, South Carolina. Resuming duty off the eastern seaboard in late spring, she again interrupted that duty from 4 August-8 October to make a transatlantic patrol. In the spring of 1965, she conducted a similar patrol in European waters.

During the late winter and early spring of 1966, and again in the autumn, she was deployed for special operations. Following the completion of those assignments, her commanding officer received the Navy Commendation Medal

for outstanding leadership, foresight, and professional skill. Other Scorpion officers and crewmen were cited for meritorious achievement. Scorpion is reputed to have entered an inland Russian sea during a “Northern Run” in 1966 where it successfully filmed a Soviet missile launch through its periscope before being forced to use its high speed to flee Soviet Navy ships. Scorpion had a reputation for excellence and as a fast attack submarine it was a plum assignment for officers seeking to move up in a Navy in which submarine officers were gaining increasing clout.

Overhaul

On 1 February 1967, Scorpion entered the Norfolk Naval Shipyard for another extended overhaul. However, instead of the much-needed complete overhaul, she received only emergency repairs to get her back on duty as soon as possible. Operational pressures and complex and unforeseen problems created by the Submarine Safety Program (SUBSAFE) that was initiated after the 1963 loss of Thresher, meant that submarine overhauls went from nine months in length to 36 months. Intensive vetting of submarine component quality required by the SUBSAFE program coupled with various improvements and intensified structural inspections - particularly hull welding inspections using ultrasonic testing - were issues that reduced the availability of critical parts such as seawater piping. Cold War pressures prompted U.S. Submarine Fleet Atlantic (SUBLANT) officers to hunt for ways to reduce overhaul durations. The cost of that last overhaul was nearly one-seventh of those given other nuclear submarines at the same time. This was the result of concerns about the “high percentage of time offline” of nuclear attack submarines which was estimated to be at about 40% of total available duty time.

As Scorpion’s original “full overhaul” was whittled down in scope, it was decided it would not receive long-overdue SUBSAFE work. Scorpion would not receive a new, central valve control system; in the event of an emergency, her crew would have to scramble around the engine room to find and manually operate large valves. Crucially, Scorpion would not receive a fix for the same emergency system that did not work on Thresher, the submarine whose loss was the reason for the existence of the SUBSAFE program. On that ship a pipe leak at depth prompted an emergency shutdown of the submarine’s nuclear reactor; powerless, Thresher could still have surfaced if the Emergency Main Ballast Tank blow system worked. It did not. (Later, dockside tests on Thresher’s sister ship Tinosa proved that the EMBT system did not work at test depth; moisture in the high-pressure air flasks froze the valves shut.) Following a dispute between Charleston Naval Ship Yard, which claimed the EMBT system worked as-is, and SUBLANT, which claimed it did not, the EMBT was “tagged out” or listed as unusable. The aforementioned problems with overhaul duration, that saw Scorpion selected for a reduced experimental overhaul program, also caused all SUBSAFE work to be delayed as well during 1967.

The reduced overhaul concept Scorpion went through had been approved by the Chief of Naval Operations on 17 June 1966. On 20 July, the CNO also allowed deferral of the SUBSAFE extensions, which had otherwise been deemed essential since 1963.

During Scorpion’s last six months of operational life, at least two sailors, EM2 Daniel Rogers and Radioman Chief Daniel Pettey, struggled to be released from duty aboard Scorpion due to the bad morale problems they witnessed. Rogers sought disqualification from submarine duty – which was then allowed – while Pettey actually attempted to transfer to the U.S. Army only to be released from Scorpion while in the Mediterranean just months before it was lost.

Disappearance

In late October 1967, Scorpion started refresher training and weapons system acceptance tests, and was given a new Commanding Officer, Francis Slattery. Following type training out of Norfolk, Virginia, it got underway on 15 February 1968 for a Mediterranean Sea deployment. It operated with the 6th Fleet into May and then headed west for home. Scorpion suffered several mechanical malfunctions including a chronic problem with Freon leakage from refrigeration systems. An electrical fire occurred in an escape trunk when a water leak shorted out a shore power connection.

Upon departing the Mediterranean on 16 May, two men departed Scorpion at Rota, Spain. One man left due to emergency leave and the other enlisted man departed for health reasons. Scorpion was then detailed to observe Soviet naval activities in the Atlantic in the vicinity of the Azores. With this completed, Scorpion prepared to head back to Naval Base Norfolk.

For an unusually long period of time, beginning shortly before midnight on 20 May and ending after midnight 21 May, Scorpion was attempting to send radio traffic to Naval Station Rota in Spain but was only able to reach a Navy communications station in Nea Makri, Greece, which forwarded Scorpion's messages to SUBLANT. Six days later, it was reported overdue at Norfolk. Navy personnel suspected possible failure and launched a search.

The search

A public search was initiated, but without immediate success and on 5 June, Scorpion and her crew were declared "presumed lost." Her name was struck from the Naval Vessel Register on 30 June. Some recent reports[4] now indicate that a large and secret search was launched three days before Scorpion was expected back from patrol; this combined with other declassified information led many to speculate the US Navy knew of the Scorpion's destruction before the public search was launched.

The public search continued with a team of mathematical consultants led by Dr. John Craven, the Chief Scientist of the U.S. Navy's Special Projects Division. They employed the methods of Bayesian search theory, initially developed during the search for a hydrogen bomb lost off the coast of Palomares, Spain in January, 1966 in the Palomares B-52 crash. At the end of October, the Navy's oceanographic research ship, Mizar, located sections of the hull of Scorpion in more than 3,000 m (9,800 ft) of water about 740 km (400 nmi; 460 mi) southwest of the Azores. This was after the Navy had released sound tapes from its underwater "SOSUS" listening system which contained the sounds of the destruction of Scorpion. Subsequently, the Court of Inquiry was reconvened, and other vessels, including the bathyscaphe Trieste II, were dispatched to the scene, collecting myriad pictures and other data.

Although Dr. Craven received much credit for locating the wreckage of Scorpion, Gordon Hamilton — an acoustics expert who pioneered the use of hydro acoustics to pinpoint Polaris missile splashdown locations — was instrumental not only in acquiring the acoustic signals that were used in locating the vessel, but also in analyzing those signals to provide a concise "search box" wherein the wreck of Scorpion was finally located. Hamilton had established a listening station in the Canary Islands, which obtained a clear signal of what some scientists believe was the noise of the vessel's pressure hull imploding as she passed below crush depth. A little-known Naval Research Laboratory scientist named Chester "Buck" Buchanan, using a towed camera sled of his own design aboard Mizar, finally located Scorpion after nearly six months of searching. The towed camera sled, which was fabricated by J.L. "Jac" Hamm of Naval Research Laboratory's Engineering Services Division, is currently housed in the Navy Museum, Washington Navy Yard, Washington, DC. (Buchanan had located the wrecked hull of Thresher in 1964 using this same technique.)

Wreckage

It would appear that the bow of Scorpion skidded upon impact with the globigerina ooze on the seafloor, digging a sizable trench which created a significant hazard for the Trieste II crews attempting to maneuver close to acquire photographs and assess the wreckage with their own eyes. Much of the operations compartment had disappeared, and most of the debris field was identified as coming from the operations compartment. The sail was dislodged as the hull of the operations compartment upon which it perched disintegrated, and was lying on its port side. One of Scorpion's running lights was locked in the open position as if it had been on the surface at the time of the mishap, although it may have been left in the open position during the vessel's recent nighttime stop at Rota. One Trieste II pilot who dived on Scorpion said the shock of the implosion may have knocked the light into the open position.

The aft section appeared to have skidded sideways on impact, since it was less hydrodynamically efficient than the bullet-shaped torpedo room, which investigators believed would have developed a greater downward velocity. The aft section of the engine room had telescoped forward into the larger-diameter hull section.

Observed damage

The secondary Navy investigation – using an extensive photographic, video and eyewitness inspections of the wreckage in 1969 – offered the opinion that Scorpion's hull was smashed by implosion forces as it sank below crush depth. The Structural Analysis Group, which included Naval Ships Systems Command's Submarine Structures director Peter

Palermo, plainly saw that the torpedo room was intact, though it had been pinched from the operations compartment by massive hydrostatic pressure. The operations compartment itself was largely obliterated by sea pressure and the engine room had telescoped 50 ft (15 m) forward into the hull by collapse pressure, when the cone-to-cylinder transition junction failed between the auxiliary machine space and the engine room.

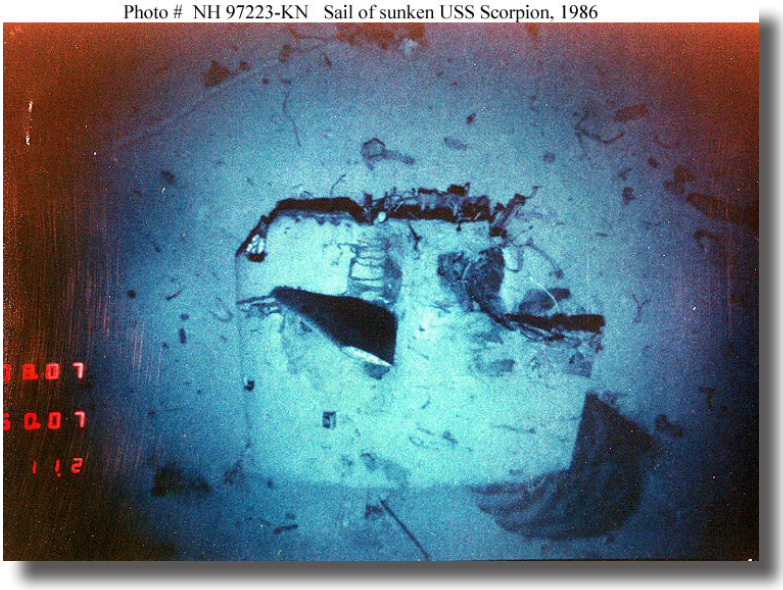


Photo # NH 97223-KN Sail of sunken USS Scorpion, 1986

The only damage to the torpedo room compartment appeared to be a hatch missing from the forward escape trunk; Palermo pointed out that this would have occurred when water pressure entered the torpedo room at the moment of implosion. He also pointed out that the aft escape trunk hatch was sprung open and appeared twisted, though it was still on its hinges. This conclusion was drawn by Palermo eighteen years after Scorpion was lost, when he reviewed new and extremely clear images taken by Jason Junior and DSV Alvin as part of a Navy-Woods Hole Oceanographic Institution survey of Scorpion's wreck site.

Palermo could not rule out sabotage or collision as "plausible" causes of destruction. Palermo writes that the position of the masts and other evidence possibly indicate Scorpion was near the surface "just prior to sinking." Palermo admits that a precursor signal that occurred some 22 minutes prior to the acoustic train left by the sinking "could have been the results of an internal explosion." He further states that "some of the remaining 14 acoustic events do have some of the characteristics of explosions", though he qualifies this by writing that such characteristics "may" also be attributed to other sources.

Acoustic evidence

An extensive, year-long analysis of Gordon Hamilton's hydroacoustic signals of the submarine's demise was conducted by Robert Price, Ermine (Meri) Christian and Peter Sherman of the Naval Ordnance Laboratory. All three physicists were experts on undersea explosions, their sound signatures and destructive effects. Price was also an open critic of Dr. Craven. Their opinion, presented to the Navy as part of the Phase II investigation, was that the death noises likely occurred at 2,000 ft (610 m) when the hull failed. Fragments then continued in a freefall for another 9,000 ft (2,700 m). This appears to differ with conclusions drawn by Dr. Craven and Hamilton, who pursued an independent set of experiments as part of the same Phase II probe, demonstrating that alternate interpretations of the hydroacoustic signals were possible based on the submarine's depth at the time it was stricken and other operational conditions. Though the Structural Analysis Group (SAG) findings argue an explosive event is unlikely, and are highly dismissive of Craven and Hamilton's tests, they failed to present information that ruled out an explosive event.

The 1970 Naval Ordnance "Letter", the intensive acoustics study of Scorpion destruction sounds by Price and Christian, was a supporting study within the SAG report. In its Conclusions and Recommendations section, the NOL acoustic study states:

"The first SCORPION acoustic event was not caused by a large explosion, either internal or external to the hull. The probable depth of occurrence...and the spectral characteristics of the signal support this. In fact, it is unlikely that any of the Scorpion acoustic events were caused by explosions."

The Naval Ordnance Laboratory based much of its findings on an extensive acoustic analysis of the torpedoing and sinking of Sterlet in the Pacific in early 1969, seeking to compare its acoustic signals to those generated by Scorpion. Price, a critic of Craven and Hamilton's analysis of the sounds emitted by Scorpion, found the Navy's scheduled sinking of Sterlet fortuitous. Nonetheless, Sterlet was a small World War II-era diesel-electric submarine of a vastly different design and construction from Scorpion with regard to its pressure hull and other characteristics. Its sinking resulted in three identifiable acoustic signals as compared to Scorpion's 15, something Price could not adequately explain. The mathematical calculations Price used to arrive at his analysis – and dispute some of Craven and Hamilton's conclusions – remain unknown to the public.

When completed, the NOL acoustics study of Sterlet and Scorpion sinking sounds provided a highly debated explanation as to how Scorpion may have reached its crush depth by anecdotally referring to the uncontrolled and

nearly-fatal dive of the diesel submarine Chopper in January 1969:

Piecing together all the information (or suggestions) we can glean from the analysis of the hydroacoustic data, the photographs of the wreckage of SCORPION and THRESHER, and the results of the STERLET acoustic measurements, we believe the sequence of occurrences outlined below is a plausible description of what might have happened when Scorpion sank. 6.1 (Redacted) SOME UNKNOWN INCIDENT OR CHAIN OF INCIDENTS CAUSED THE SCORPION TO SINK OUT OF CONTROL. The February 1969 USS Chopper (SS-342) mishap is an example of loss of electrical power in a submarine. It was followed by corrective action, initiation of which was delayed almost to the fatal limit by a combination of failures. Fortunately the plunge of the ship towards the bottom was halted (redacted) just before the hull reached collapse depth and the ship was able to surface, though not under control and with some damage caused by excessive pressure.

In the same May, 2003 N77 letter excerpted above (see 1. with regard to the Navy's view of a forward explosion), however, the following statement appears to dismiss the NOL theory, and again unequivocally point the finger toward an explosion forward:

"The Navy has extensively investigated the loss of Scorpion through the initial court of inquiry and the 1970 and 1987 reviews by the Structural Analysis Group. Nothing in those investigations caused the Navy to change its conclusion that an unexplained catastrophic event occurred."

Secrecy

At the time of her sinking, there were 99 crewmen aboard Scorpion. The boat contained a treasure-trove of highly sophisticated spy gear and spy manuals, two nuclear-tipped torpedoes, and a nuclear propulsion system.[citation needed] The best available evidence indicates that Scorpion sank in the Atlantic Ocean on 22 May 1968 at approximately 1844Z after an explosion of some type, while in transit across the Atlantic Ocean from Gibraltar to her home port at Norfolk, Virginia.

Several hypotheses about the cause of the loss have been advanced. Some have suggested that hostile action by a Soviet submarine caused Scorpion's loss (see discussion of Offley's "Scorpion Down," below). Shortly after her sinking, the Navy assembled a Court of Inquiry to investigate the incident and to publish a report about the likely causes for the sinking. The court was presided over by VADM Bernard Austin who presided over the inquiry into the loss of Thresher. The panel's conclusions, first printed in 1968, were largely classified. At the time, the Navy quoted frequently from a portion of the 1968 report that said no one is likely ever to "conclusively" determine the cause of the loss. The Clinton Administration declassified most of this report in 1993, and it was then that the public first learned that the panel considered that a possible cause of the malfunction was one of Scorpion's own torpedoes. (The panel qualified its opinion saying the evidence it had available could not lead to a conclusive finding about the cause of her sinking.) However, the Court of Inquiry did not reconvene after the 1969 Phase II investigation, and did not take testimony from a group of submarine designers, engineers and physicists who spent nearly a year evaluating the data[citation needed].

Present location

Today, the wreck of Scorpion is reported to be resting on a sandy seabed at the bottom of the Atlantic Ocean in approximately 3,000 m (9,800 ft) of water. The site is reported to be approximately 400 nmi (740 km) southwest of the Azores Islands, on the eastern edge of the Sargasso Sea. The U.S. Navy has acknowledged that it periodically visits the site to conduct testing for the release of nuclear materials from the nuclear reactor or the two nuclear weapons aboard her, and to determine whether the wreckage has been disturbed. The Navy has not released any information about the status of the wreckage, except for a few photographs taken of the wreckage in 1968, and again in 1985 by deep water submersibles.

The Navy has also released information about the nuclear testing performed in and around the Scorpion site. The Navy reports no significant release of nuclear material from the sub. The 1985 photos were taken by a team of oceanographers working for the Woods Hole Oceanographic Institution in Woods Hole, Massachusetts. The circumstances of the Woods Hole mission show the high level of secrecy the Navy attaches to Scorpion; at the time the photographs were taken, the Navy and Woods Hole both maintained that the Woods Hole team was searching for the wreckage of the noted sunken ocean liner, Titanic. It was only after newspapers learned and reported that the Woods Hole team was also searching for Scorpion that the Navy admitted as much, and released some of the photographs taken during the expedition.

Environmental monitoring

The U.S. Navy has periodically monitored the environmental conditions of the site since the sinking and has reported the results in an annual public report on environmental monitoring for U.S. nuclear-powered ships and boats. The

reports provide specifics on the environmental sampling of sediment, water, and marine life that is done to ascertain whether the submarine has significantly affected the deep-ocean environment. The reports also explain the methodology for conducting this deep sea monitoring from both surface vessels and submersibles. The monitoring data confirm that, by the standards of the U.S. Navy, there has been no significant effect on the environment. The nuclear fuel aboard the submarine remains intact and no uranium in excess of levels expected from the fallout from past atmospheric testing of nuclear weapons has been detected by the Navy's inspections. In addition, Scorpion carried two nuclear-tipped Mark 45 anti-submarine torpedoes (ASTOR) when she was lost. The warheads of these torpedoes are part of the environmental concern. The most likely scenario is that the plutonium and uranium cores of these weapons corroded to a heavy, insoluble material soon after the sinking, and they remain at or close to their original location inside the torpedo room of the boat. If the corroded materials were released outside the submarine, their large specific gravity and insolubility would cause them to settle down into the sediment.

Theories about the loss

The cause of her loss, to date, has not been fully confirmed by the USN and various possibilities have been raised.

1. Accidental activation of torpedo

The US Navy's Court of Inquiry listed as one possibility the inadvertent activation of a battery-powered Mark 37 torpedo. This acoustic homing torpedo, in a fully-ready condition and without a propeller guard, is believed by some to have started running within the tube. Released from the tube, the torpedo then somehow became fully-armed and successfully engaged its nearest target — Scorpion herself. This is considered highly unlikely due to the fact that Scorpion would have maintained the ability to destroy the weapon before it reengaged. Although much has been made of claims by Dr. Craven that the SOSUS network tracked the submarine moving back onto its original course, which would be consistent with performing a 180° turn in an attempt to activate a torpedo's safety systems, Gordon Hamilton has said that the acoustical data is too garbled to reveal any such details.

Another problem with the torpedo theory is that numerous safeguards are in place that would enable the torpedomen to disable the warhead if it were launched and its anti-circular run switch also failed, allowing it to strike its mother ship without detonating, in which case the weapon would thud harmlessly off the hull. Few torpedomen familiar with the Mark 37 have expressed confidence in the self-destruction-by-torpedo theory.

In Silent Steel, Fountain reveals he does not believe Scorpion was sunk by her own torpedo, and during the Court of Inquiry, physicists and engineers who carried out the simulations demanded by Dr. Craven testified that the massively complex simulations, using the crude computing power of the day, were of little value since they were so speculative. This testimony brought a rebuke from the court's members who were sufficiently persuaded by Craven's theories to list them foremost above all others. What has become apparent is that many investigators, even according to a Navy history of the investigation, were upset by Craven's devotion to his hot-running torpedo theory.

2. Explosion of torpedo

A later theory was that a torpedo may have exploded in the tube, caused by an uncontrollable fire in the torpedo room. The book Blind Man's Bluff documents findings and investigation by Dr. John Craven, who surmised that a likely cause could have been the overheating of a faulty battery (Dr. Craven later stated in the book Silent Steel that he was misquoted.) The Mark 46 silver-zinc battery used in the Mark 37 torpedo had a tendency to overheat, and in extreme cases could cause a fire that was strong enough to cause a low-order detonation of the warhead. If such a detonation had occurred, it might have opened the boat's large torpedo-loading hatch and caused Scorpion to flood and sink. However, while Mark 46 batteries have been known to generate so much heat that the torpedo casings blistered, none is known to have damaged a boat or caused an explosion.

Dr. John Craven mentions that he did not work on the Mark 37 torpedo's propulsion system and only became aware of the possibility of a battery explosion twenty years after the loss of Scorpion. In his book The Silent War, he recounts running a simulation with former Scorpion Executive officer LCDR Robert Fountain, Jr. commanding the simulator. Fountain was told he was headed home at 18 knots (33 km/h) at a depth of his choice, then there was an alarm of "hot running torpedo". Fountain responded with "right full rudder", a quick turn that would activate a safety device and keep the torpedo from arming. Then an explosion in the torpedo room was introduced into the simulation. Fountain ordered emergency procedures to surface the boat, stated Dr. Craven, "but instead she continued to plummet, reaching collapse depth and imploding in ninety seconds — one second shy of the acoustic record of the actual event."

Craven, who was the Chief Scientist of the Navy's Special Projects Office, which had management responsibility for the design, development, construction, operational test and evaluation and maintenance of the Polaris Fleet Missile System - at the time of Scorpion's sinking the most technically advanced military system ever deployed - had long believed Scorpion was struck by her own torpedo, but revised his views during the mid-1990s when engineers

testing Mark 46 batteries at Keyport, Washington, said the batteries leaked electrolyte and sometimes burned while outside of their casings during lifetime shock, heat and cold testing. Although the battery manufacturer was accused of building bad batteries, it was later able to successfully prove its batteries were no more prone to failure than those made by other manufacturers. In fact, the batteries suspected of being unreliable were manufactured too late to have been installed in Scorpion's torpedoes.

3. Malfunction of Trash Disposal Unit

During the 1968 inquiry, Vice Admiral Arnold F. Shade testified that he believed that a malfunction of the trash disposal unit (TDU) was the trigger for the disaster. Shade theorized that the sub was flooded when the TDU was operated at periscope depth and that other subsequent failures of material or personnel while dealing with the TDU-induced flooding led to the sub's demise.[5]

4. Enemy action

Some writers suggest that Scorpion was sunk by a Soviet submarine, possibly in retaliation for the sinking of Soviet submarine K-129. See "Books" below, on the books Red Star Rogue, Scorpion Down, and All Hands Down.

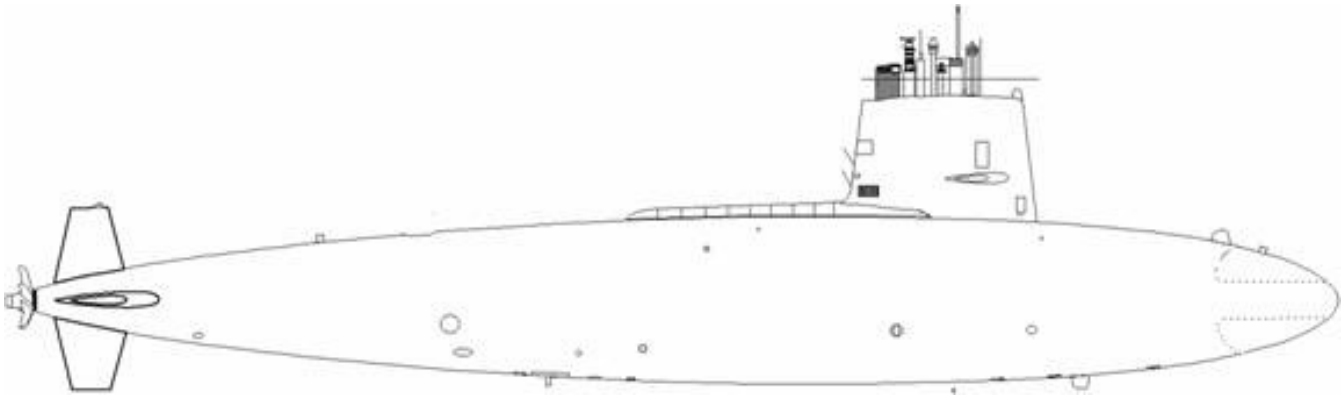
US Navy conclusions

The results of the U.S. Navy's various investigations into the loss of Scorpion are inconclusive. While the Court of Inquiry never endorsed Dr. Craven's torpedo theory regarding the loss of Scorpion, its Findings of Facts released in 1993 carried Craven's torpedo theory at the head of a list of possible causes of Scorpion's loss.

The Navy failed to inform the public that both the U.S. Submarine Force Atlantic and the Commander-in-Chief U.S. Atlantic Fleet opposed Craven's torpedo theory as unfounded and also failed to disclose that a second technical investigation into the loss of Scorpion completed in 1970 actually repudiated claims that a torpedo detonation played a role in the loss of Scorpion. Despite the second technical investigation, the Navy continues to attach strong credence to Craven's view that an explosion destroyed her, as is evidenced by this excerpt from a May 2003 letter from the Navy's Submarine Warfare Division (N77), specifically written by Admiral P.F. Sullivan on behalf of VADM John J. Grossenbacher (Commander Naval Submarine Forces), the Naval Sea Systems Command, Naval Reactors, and others in the US Navy regarding its view of alternative sinking theories:

"The first cataclysmic event was of such magnitude that the only possible conclusion is that a cataclysmic event (explosion) occurred resulting in uncontrolled flooding (most likely the forward compartments)."

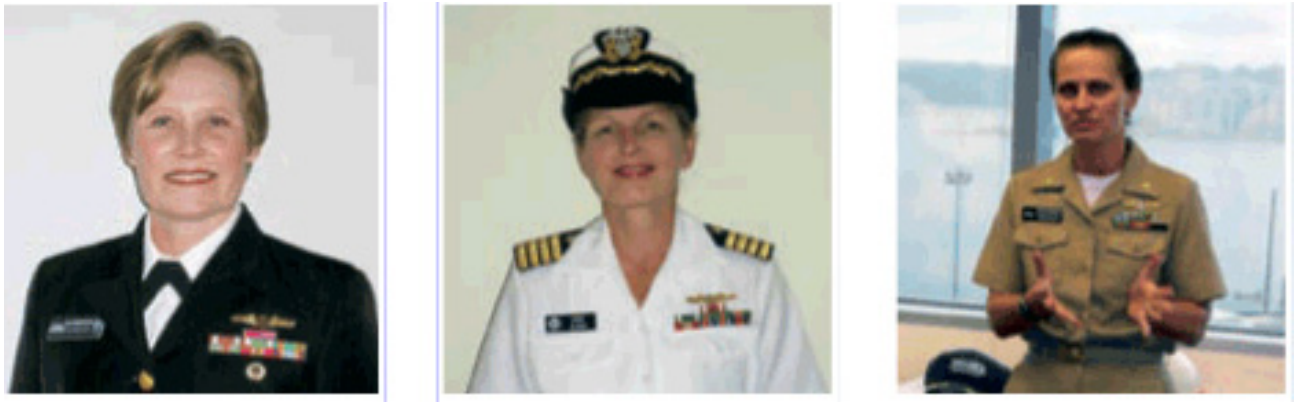
Some erroneously claim VADM Grossenbacher's (and ADM Sullivan's) determination is drawn solely from the inconclusive Findings of Fact, generated by the US Navy's Court of Inquiry into Scorpion sinking. This is untrue, as their letter (see excerpt below) explicitly mentions their review of a secondary study by the Structural Analysis Group in 1970, and a later report by Dr. Robert Ballard, whose investigative team visited the Scorpion wreck in 1985 using the search for Titanic as a cover since the visit was part of a recently declassified mission to visit Scorpion as well as Thresher nuclear sub which was lost off the coast of Cape Cod, Massachusetts.



Woman Wearing Dolphins:

Three women qualified to wear dolphins share their unique stories

by Bethany Rohrer
from the Summer 2009 issue of "Undersea Warfare Magazine"



(Above) Three women have qualified to wear dolphins (from left to right): Capt. Mary Townsend-Manning (ret.), Capt. Geraldine Louise Olson (ret.) and Cmdr. Darlene Kay Grasdock. Photos courtesy of Capt. Mary Townsend-Manning (ret.), Capt. Geraldine Louise Olson (ret.) and Cmdr. Darlene Kay Grasdock.

The Navy Engineering Duty (ED) Officer Community provides the Navy with experienced naval engineers that ensure our Naval and joint forces operate and fight with the most capable platforms possible. They are involved with the design, acquisition, construction, repair, maintenance, conversion, overhaul, and disposal of ships, submarines, aircraft carriers and the systems on those platforms. In this community are three women who have completed the required qualifications to wear the submarine gold dolphins. While the ED Submarine Warfare Qualification is different than an Unrestricted Submarine Line Officer, the lengthy, rigorous qualification process completed by Capt. (ret) Mary Townsend-Manning, Capt. (ret.) Geraldine Louise Olson, and Cmdr. Darlene Kay Grasdock to earn the dolphins is an admirable achievement.

These three dolphin wearers recently spoke to UNDERSEA WARFARE Magazine about their qualification process and career impact.

Can you tell us about your career in the Navy prior to qualifying for your Dolphins?

Townsend-Manning: I joined the Navy as an Engineering Duty Officer (EDO) and went straight into that subspecialty. I initially applied for the dolphin program in October, 1980, but it took about 15 years for me to actually get permission to do the program and get qualified.

My first tour of duty in the Navy was as a quality assurance officer. I supervised repairs on amphibious ships and smaller ships. During that tour I went to the Engineering Officer Basics School where the commanding officer of the school told me that if I wanted a really challenging career I should move into submarine repair.

Following my first tour, I requested assignment on a submarine tender. In the interim, I had applied for the Engineering Duty Officer Dolphin Program. There was one problem—the program wasn't open to women at the time. I was told that if it should, or when it did, become open to women, they would let me know. It wasn't until years

later, after I submitted my second application, that the idea of allowing women into the program was reconsidered. I was a lieutenant commander when I actually got my dolphins put on.

Capt. M. Townsend-Manning (ret.) completed some of her training with the crew of USS Pennsylvania *(SSBN-735). (Photo by Petty Officer 3rd Class Chris Otsen).*

Grasdock: During my senior year in college, I interviewed for the Naval Nuclear Propulsion Program at Naval Reactors in Washington D.C. The director at that time, Adm. Bruce DeMars, accepted me into the program to be an instructor. I served my initial tour as a Nuclear Power School instructor. In a later assignment I was an instructor in the Mechanical Engineering Department at the U.S. Naval Academy. Capt. Rick Rubel (then Director, Division of Engineering and Weapons) was an Engineering Duty Officer (EDO) who recommended that I apply for the EDO program. After being accepted into the program, I applied for the EDO Dolphin Program and was accepted.

Following my tour at the Naval Academy, I was assigned to Supervisor of Shipbuilding (SUPSHIP) Groton, Conn. As the ship coordinator for USS Virginia (SSN-774), I was responsible for oversight of shipyard construction and testing for the first ship of the class. I served as the liaison between ship's force, General Dynamics Electric Boat Corporation, and various government agencies and vendors to ensure resolution of technical and production issues.

Olson: I was commissioned as a general unrestricted line officer upon graduation in 1982 from the Naval Academy with a Bachelor of Science degree in Mechanical Engineering. My engineering degree allowed me to be involved with ship maintenance, which is not very common as a general unrestricted line officer. I was stationed at TRIDENT Refit Facility (TRF), Bangor, Wash. as a division officer in the Repair Department and then was stationed on a floating dry-dock (surface) as the Executive Officer. Upon completion of my tour on the dry-dock, I was selected for a designator change to Engineering Duty Officer. I attended the Naval Postgraduate School in Monterey, Calif. with a follow on tour at Pearl Harbor Naval Shipyard (PHNS). I applied for the EDO Dolphin Program while at PHNS and was transferred to Puget Sound Naval Shipyard (PSNS) via the submarine school to complete my dolphin qualifications.

What about the Submarine Force focused your interest?

Townsend-Manning: I think the reputation of high integrity and the mental challenge of working with the Submarine Force piqued my interest. I thought the complexity of the jobs to be done would be really interesting work. Submariners are the top part of the Navy to be in, the most elite part of the Navy, and so I wanted to be part of that club.

Grasdock: While serving as an instructor in Orlando, Fla., I quickly realized that Naval Reactors was a unique and exclusive organization. That organization, and their role in the Submarine Force, is what piqued my interest. In particular, the foundational tenants, people who are intelligent, hard working, meticulous, and strive for technical excellence, are what piqued my interest. In my opinion, Naval Reactors and the Submarine Force are the epitome of excellence.

Olson: While stationed at TRIDENT Refit Facility (TRF) Bangor, I was fortunate to work for Capt. Ed Whitehead, who was the Repair Officer and an EDO. He encouraged me to transfer to the Engineering Duty Officer community. While at Bangor, he also encouraged me to ride the TRIDENT submarines for bay trials to get an understanding for how the crew operates and trains and to understand the important role TRF plays in maintaining an elite submarine force.

The EDO Dolphin Program was also a warfare qualification that would enhance my career opportunities. When I was commissioned, the opportunity to obtain a surface or air qualification was limited in comparison to what is currently available. For the women in my graduating class, there were five billets for Surface Warfare Officers. The ships available were the aircraft trainer [USS Lexington (CV-16)] or tenders. The restrictions on placing women on combatants were still in place at that time and the positions available were few.

Can you please describe how you were able to qualify given the limited opportunities to be underway on a submarine?

Townsend-Manning: The majority of the requirements for EDO Dolphin Program are schools, journals, shipyard

experience—things that can be done shore side. I completed many of the qualifications along my career path leading up to entry into the program. The remaining qualifications required temporary assignment to a submarine to finish. One of the requirements was to go through a refit with a TRIDENT submarine to learn how the submarine crew conducted maintenance. My experience started on USS Pennsylvania (SSBN-735) just as the submarine was going into a training and refit period. During that time, I became part of the crew and participated in the refit and training. I also spent a lot of time in the trainers. I owe a debt of gratitude to the crew members on Pennsylvania who graciously sacrificed their time for the extra training to support my qualifications. Having only 6 or 7 days underway prior to that time, I needed to get enough practical experience driving the submarine so that the commanding officer would be confident enough to qualify me.

Grasdock: Limited underway time on a submarine certainly made qualifications a challenge; however, there are three areas I attribute to helping me overcome this.

Cmdr. D. Grasdock completed some of her training on USS Annapolis *(SSN-760) (Photo by Petty Officer 2nd Class Brandon A. Teeples).*

One, my engineering background. That is, the undergraduate engineering degree, training and experience I received as an instructor at Nuclear Power School, the education I received as a student working on my master's degree in Mechanical Engineering, and the experience I received teaching at the Naval Academy formed the foundation for my qualifications.

Two, synthetic training and simulation. The Submarine Force has invested significant resources into various training systems, both at Submarine School and onboard submarines. These trainers were instrumental to my qualification process, especially the Ship Control Operator Trainer when I was working on my Diving Officer of the Watch qualifications.

Three, the men of the Submarine Force. After graduating from the Submarine Officer Basic Course, while stationed at SUPSHIP Groton, I studied hard, but I also received qualification support from numerous Sailors. Not only Sailors at the Submarine School who helped me at the trainers, but the various Sailors attached to ships and squadrons. For example, the officers and crew of the USS Annapolis (SSN-760) allowed me to train with them during some of their in port training events. Additionally, the staff of Submarine Squadrons TWO, FOUR, and TWELVE helped me obtain qualification checkouts and also helped me schedule in port and at sea training time. Finally, I qualified Diving Officer of the Watch during an underway period with the officers and crew of the USS Alexandria (SSN-757). Their support of my qualifications was second to none.

I could go on and on about this third area, but my point is, the people, not the technology, of the Submarine Force were the key to my success. They are intelligent, hard working, and talented professionals.

My qualifications took about 3.5 years for both EDO, the first qualification, and EDO dolphin, the second qualification. Although that is an average time for an EDO to qualify dolphins, it is long compared to the Submarine dolphin qualification which is 12 to 18 months. That does not mean the EDO dolphin qualification is harder; it is just different and therefore has a different timeline.

Olson: When I was stationed at Puget Sound Naval Shipyard (PSNS), my leadership knew I was in the program and were very supportive of my efforts. I met with the chief of staff at the submarine group and the submarine squadron. I explained the program and the connection that EDO's have with both construction and maintenance in the Submarine Force. The TRIDENT submarines at Bangor would routinely carry riders from the group and squadron while conducting at sea refresher training. My proposal was to go to sea during those periods for the purposes of my qualifications.

When I wanted to arrange for a ride on a submarine, I would go down to the waterfront and talk to the commanding officer and executive officer to explain what I was doing and why, and get their support in being put on the watch bill as an under instruction watch. I always had the support from each of the crews that I worked with and their professionalism was unsurpassed.

Since the at sea time was limited, I was able to arrange with the TRF to accompany some of the crews utilizing the trainers, most often the dive trainer. The trainers at that time frequently operated 24 hours-a-day. As such, I

could work at the shipyard during the day and in the evenings I was able accompany the submarine crews and train with them. This after hours training routine had follow on benefits when I did go to sea, some members of the crew had already met me and were aware of and supportive of what I was doing.

What made you decide to get dolphins as your warfare qualification?

Townsend-Manning: I originally decided to get my dolphins because I wanted a career in submarine repair and maintenance. That remained my primary reason to continue pursuing the dolphins because if I didn't have them, as I found out, my career with submarines would not have been as fulfilling.

Grasdock: People. I want to work with men and women who build and operate submarines. True, I knew I would never be a crewmember, but I also knew that I would have the opportunity to serve in various other capacities on submarines. In the time since I qualified, I have been to sea on submarines three times.

Olson: As I stated previously, the EDO Dolphin Program allowed me an opportunity to complete a warfare qualification. When I started the qualification process, since I had previously worked at TRF Bangor and was familiar with the submarines, I did not anticipate some of the challenges I would have at the onset.

*Cmdr. D. Grasdock currently works in new construction submarines with the "*Virginia-*class"*
and was involved with New Mexico *(SSN-779). Photo by John Whalen.*

During this time, the Navy was also downsizing both the fleet and the shore infrastructure. The non-nuclear shipyards were being closed and the non-nuclear tenders were being decommissioned. Obtaining a submarine qualification would allow a greater opportunity of senior positions—while a sub, carrier or surface qualified EDO can compete for some positions, there are other EDO positions that require submarine qualifications.

To address serving on a submarine, the EDO dolphin qualification is not intended to replace or substitute for a line officer submarine qualification. The EDO dolphins signify knowledge of the engineering design principles of a submarine and the specific maintenance requirements of a submarine to the EDO dolphin candidate.

How has qualifying and wearing Dolphins affected your career?

Townsend-Manning: I had been allowed to do a lot of submarine related tours before, but after I earned my dolphins I was able to qualify to be a submarine repair officer, which would not have been possible without dolphins. I went to Pearl Harbor Naval Shipyard for a tour and became the project superintendant for decommissioning Los Angeles-class submarines—a position I could not have had without my dolphins. I also was sent to Washington, D.C., as the SUBSAFE officer-in-charge of the submarine safety and quality program of the Navy, and I couldn't have done that without dolphins. There's certain credibility with wearing dolphins. If you're dealing with other submariners, the warfare pin is a very visual reminder that you are part of the community.

Olson: After I qualified, my follow on tour was in the N4 Maintenance and Material Office at Commander, Submarine Force Pacific (SUBPAC). To receive those orders, I had to be qualified in submarines. The gold dolphins continued to be an asset when I transferred from SUBPAC to OPNAV N431, Surface and Submarine Readiness.

Grasdock: Following my tour at SUPSHIP Groton, I served at NAVSEA [Naval Sea Systems Command] in Washington D.C. in PMS 392, which was the Strategic and Attack Submarine Program Office. As the private shipyard availability manager, I managed various maintenance and modernization work for submarines undergoing availabilities at Electric Boat and Newport News.

Today, I work new construction submarines for the Virginia-class at Northrop Grumman Shipbuilding in Newport News. I am the Project Officer for SUPSHIP Newport News and the Program Manager's representative to PMS 450, which is the Virginia-class Program Office.

Last year, SUPSHIP Newport News delivered USS North Carolina (SSN-777) to the Navy and later this year, we will deliver New Mexico (SSN-779). As you can imagine, delivering a ship to the Fleet is rewarding for the shipbuilders, crew and submarine acquisition team. I am honored to work with everyone who builds these ships and delivers them to the Navy.

Yes, wearing dolphins has affected my career. I work with submarine programs and people on a daily basis, and wearing dolphins has had a positive impact on my career in this environment. Just like the warfare pins worn by other Sailors, it is a sign of professionalism, knowledge and credibility.

Bethany Rohrer is an analyst with Alion Science and Technology.

Digging  Deep

- *A typical modern submarine may require as many as 2,000 working drawings for the more than 7,000,000 items used in its construction. Blueprints from these drawings if placed end to end would make a strip 250 miles long.*
- *The first periscope used by the United States Navy was not built for a submarine. The ironclad monitor OSAGE utilized a periscope to discover a Confederate cavalry unit taking cover behind the high banks of the Red River in Arkansas.*
- *In World War II the Germans lost 782 submarines, the Japanese lost 130, and the United States lost only 52 submarines. Twenty-three of the Japanese subs lost were victims of the American Submarine Service.*
- *Submarine tenders, or 'mother ships' of the U.S. Navy usually bear the names of characters of mythology, the names of submarine inventors, or the names of persons who have made contributions to the Submarine Service.*
- *A submarine, the TURTLE, was employed by the American revolutionary army to attack the British. It was built by David Bushnell at Saybrook, Connecticut, just a few miles from the present site of Electric Boat Division of the General Dynamics Corporation, and the U.S. naval Submarine Base.*
- *George Washington Endorsed the use of the first American submarine, David Bushnell's TURTLE, during the Revolution. Following the vessel's attack on a British man-of-war, he discussed the potential use of submarines in a letter to Thomas Jefferson.*
- *USS GEORGE WASHINGTON, the world's first ballistic missile nuclear powered submarine, constructed in record time, set a record of its own by remaining submerged 67 days on its initial Polaris missile deterrent patrol in the Atlantic.*
- *Nautilus has long been a popular name for a submarine. Some of the more famous of these are Robert Fulton's NAUTILUS (1800), Jules Verne's fictional Nautilus, and the NAUTILUS of Sir Hubert Wilkins in which he attempted a voyage to the North Pole under the ice (1931). There have also been three U.S. submarines of that name, including the world's first nuclear powered submarine built by the Electric Boat Division.*
- *Long considered a versatile and deadly instrument of war, the submarine has broadened her capabilities with the adoption of nuclear power. Today the submarine serves as a ballistic missile platform, early warning station, killer of surface and underwater vessels, scout, coastal raider troop transport, supply ship, mine layer, and seaplane tender. The United States submarine USS TRITON was fitted with twin reactors and was considered the longest submarine ever built until the advent of the OHIO class. The TRITON was designed for a surface displacement of 5,900 tons. Large submarines of other countries have been the Japanese I-400 (5,220 tons), and the French SURCOUF (2,880 tons).*
- *The USS NAUTILUS was the first submarine with a satisfactory single plant that can be used for main propulsion both surfaced and submerged.*

Return To:
U. S. Submarine Veterans, Perch Base
7011 West Risner Road
Glendale, AZ 85308
E-Mail: communications@perch-base.org

http://www.perch-base.org

NEXT MEETING
12 noon, Saturday, May 8, 2010
American Legion Post #105
3534 W. Calavar Rd., Phoenix, 85053
(1/2 block northwest, 35th Ave. & Thunderbird)