



May 2005
Volume 11 - Issue 5



<http://perch-base.org>

**What's "Below Decks"
in the Midwatch**

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Lest We Forget Those Still On Patrol

MAY ETERNAL PATROLS

USS Squalus *	SS192	May 23, 1939	26 men
USS Runner	SS275	May 29, 1943	78 men
USS Lagarto	SS371	May 3, 1945	85 men
USS Stickleback	SS415	May 30, 1958	none

* The Squalus was recommissioned as the USS Saifish in 1940.

NEXT REGULAR MEETING - May 21, 2005
American Legion Post #62
11001 N. 99th Ave.
(Brief Meeting) Starts at 1200 hours
Lunch provided - Donation Suggested \$3

New London Sub Base to Close

See page 9 for background on the base that, in the past, has been the first stop in each submariner's career.

The Perch Base USSVI cannot support itself financially on the dues collected from its members. There have been no successful and ongoing plan since the base was formed to produce any other steady and effective source of income. Therefore, the Base has relied on charitable cash donations from members -- usually given at membership renewal -- for its survival. Listed below are those charitable givers, known as the Booster Club.

2005 Booster Club

Ben Acosta	Jerry Allston	Ken Anderson	Kirby Anderson
Ted Asbell	Gary Bartlett	Ken Becker	Joe Bernard
Dick Bernier	Ron Beyer	Ed Brooks	Jim Edwards
Harry Ellis	Chuck Emmett	Ray Graybeal	Chuck Greene
Billy Grieves	Kelly Grissom	Bob Hanson	Dave Harnish
Ed Hawkins	Glenn Herold	Dave Herrington	Les Hillman
Davy Jones	Ron Kloch	Bob Lacendorfer	Doug LaRoch
George Marions	Dale Martin	Terry Martin	Bob May
Denny McComb	Ray McKinzie	Paul Miller	Roger M. Miller
Roger R. Miller	Tim Moore	Tom Moore	Joe Mullins
Bon Nance	Jim Nelson	Jim F. Newman	Jim W. Newman
Joe Otreba	Ray Perron	George Petrovitz	Royce Pettit
Clair Prokupek	Scott Prothero	Robbie Robinson	Stan Rud
Frank Rumbaugh	Ray Schaeffer	Rick Simmons	Wyne Smith
Jim Strassels	Adrian Stuke	Jim Thomson	Tom Tilley
Jim Wall	Dick Weber	Jerry Yowell	John Zaichkin
Mike Haler	Darrell Lambert	Nick Pappas	Kenney Wayne
Ed Wolf	Roger Cousin	Alex Martin	John Cash
Roger Cousin	Joe Errante	Tom Fooshee	Mike Haler
Steve Hough	Mike Keating	Darrell Lambert	Burt Loftin
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John McVeigh	Mike Simpson	Joseph Hawkins	



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Sailing Orders



**BRIEF REGULAR MEETING
May 21, 2005
American Legion Post #62
11001 N. 99th Ave.
Starts at 1200 hours**



From the Wardroom

Dear Shipmates,

Our annual picnic was a big success and a most festive occasion. For those of you who couldn't attend, you really missed out. We had a perfect day, a good turnout with many shipmates and good friends and a good time was had by all. The best part was the feast that was put on by our Vice Commander, Stan Reinhold. My hat is off to Stan and he deserves a big time Bravo Zulu for his contribution. We had hot dogs, burgers, chicken, brats, chili, beans, pasta salad, cole slaw... umm, umm, ummmm. I could go on but I think you get the message. Stan, on behalf of all who attended, many many thanks, and let me be the first to extend you an invitation to attend next year's gala event! This brings me to the next issue.

On April 20, 2005 we had the first regular meeting of the Short Range/Long Range Planning Committee. Our Treasurer, Jim Denzien, was nominated, approved by the committee and accepted the Committee Chair position. In addition to preliminary planning for next year's picnic, we had discussions on this year's holiday activities, fund raising issues and preliminary planning for a Submarine Ball in April 2007 to be held in conjunction with the Submarine Anniversary. It is important for you to remember that Perch Base is your base and I want to encourage all hands to bring your ideas for future activities to the table for discussion. We plan on meeting quarterly.

Next I'm sorry to have to report that due to lack of interest, we will not be participating in the Yarnell Daze celebration on 21 May. There were only nine members that expressed any interest in participating and of those only six were firm commitments. Maybe next year. For those of you who would still like to participate in the Yarnell event, by all means, feel free to do so. We will have a short meeting at the American Legion Post #62 on our normal meeting day of 21 May 2005.

Last I want to encourage all hands to attend the Memorial Day Service at the National Veteran's Cemetery of Arizona. See the announcement on page 6 of this newsletter. I sincerely hope this will be a service that will be meaningful to all of you and your families. Unfortunately, on this 60th anniversary of a major historic victory, VE Day (May 8), we continue to receive daily reminders of the tragic losses of our young men and women who continue to faithfully serve on foreign soil protecting the freedom of the Iraqi people as well as our freedom and democratic way of life. We need to honor them and those who have fallen before. I look forward to seeing you at the Memorial Day Service.

Fraternally,

Tim Moore, commander, Perch Base USSVI

April Meeting Minutes

The regular monthly meeting of the members of the Arizona Submarine Veterans Perch Base was convened at the American Legion Post #62 Peoria, AZ at 1300 hours, 16 April 2005. The meeting was called to order by the Base Commander – Tim Moore.

Shipmate Joe Bernard led the members in a prayer of Invocation. The members were then led in the "Pledge of Allegiance" followed by a reading of the "Purpose of the Organization", Dedication, a Moment of Silence for our departed shipmates and the "Tolling of the Boats" ceremony for submarines lost during the month of April.

According to the sailing list, there were 28 persons at the meeting. Guest Shipmates George Debo and Don Masoero (Members of the Seattle Base) were introduced and welcomed by the members.

A motion was made and seconded that the minutes from the March meeting be approved as published in the Base Newsletter "The MidWatch." The motion carried by voice vote.

Treasurer, Jim Denzien, reported the Base's financial status as of the first day of April, 2005.

A motion was made and seconded to accept the Treasurer's report as read. The motion carried by unanimous voice vote.



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REPORTS BY OFFICERS AND COMMITTEE CHAIRMEN

Base Vice Commander – Stan Reinhold was not at the meeting.

Base Chief of the Boat – Bob Gilmore announced that the construction for the new American Legion Post 62 has begun.

Base Chaplain – Howard Doyle reported that Dick Caraker was well on the path to recovery after his multiple by-pass surgery and suggested that everyone keep Dick in their prayers during the recovery process.

Membership Chairman – Ramon Samson reported that membership renewal for 2005 was over and there were 7 members lost due to non-payment of dues and 3 new members gained. Ray also announced that a new Bulletin Board is being set up on the Base Web Site so members can participate in discussions over the Internet.

Ship's Storekeeper – Jim Nelson announced that the ship's store has marked down several items and members should take advantage of the bargains.

OLD BUSINESS

Glenn Herold announced that the Perch Parade Float cover is being repaired and there will be a need for a working party to spruce up and refurbish the float itself before its next use in a parade. Storage locations are still being evaluated as well.

A target date has been established to invite Marshall Tremble to attend a Perch Base meeting. It was resolved that the October meeting would be a good goal.

Tim Moore reported that we are still waiting to hear how Perch Base can become involved in support of the Medal of Honor Society meeting to be held in Phoenix this coming September.

A proposal to offer the Perch Base Library books for sale on Ebay was brought to the members. The members were asked to voice any objections to the proposal. There was none.

Tim Moore informed the members that the Board of Directors had voted to cancel the Annual Picnic if there were less than 30 participants planning to attend. After a show of hands of those planning to attend, it was determined that the 30 person criteria would be met and the picnic would proceed as planned. The picnic would be held on 30 April at the White Tank Park picnic area 4A & B.

The members were reminded of the Golf Tournament to be hosted by the White Mountain Base on June 18. Jim Clewett has offered to let visiting members use the RV hookups at his home while attending the tournament. Anyone interested should contact Jim.

Tim Moore informed the members that he was in the process of providing paid Associate Memberships for Clive Cussler and his son Dirk. Tim had corresponded with Clive informing him of the action. Clive had recently responded to Tim's letter thanking him for the honor.

NEW BUSINESS

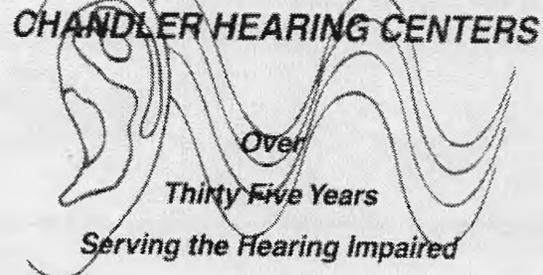
Tim Moore announced the Memorial Day Ceremony to be held at the Phoenix National Cemetery on Monday, May 30. He encouraged all those that can to attend.

Tim also informed the membership that the Board of Directors had voted to keep Dave Harnish as an Ex-Officio member of the Board. That provision will also apply to any other members elected to a national office.

It was announced that Perch Base will have a newly formed Short and Long Range Planning Committee. The committee is a standing committee that will be responsible for planning the events Perch Base will hold or participate in each year.

GOOD OF THE ORDER

Dave Harnish announced that he will be attending the USSVI Mid-Year Board Meeting in Little Rock, Arkansas the latter part of May and at that meeting he will be forwarding a proposal to add more Districts within the Western Region. In the proposal, Dave will be asking to make the State of Arizona a separate District. If the proposal is approved, there will be new



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District Commanders needed – one of which would be the Commander for the Arizona District. Members should be thinking of good candidates for the position.

50/50 DRAWING

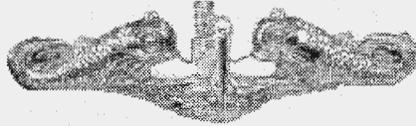
The 50/50 drawing was held and the winner was Ray Samson. Ray donated a portion of the money to the US Submarine Veteran's – Charitable Foundation's Scholarship Fund.

ADJOURNMENT

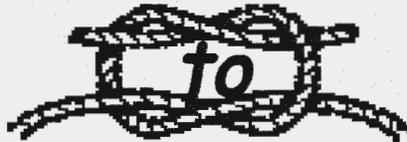
All the outstanding business being concluded, it was moved and seconded that the meeting of the Arizona Submarine Veterans - Perch Base be adjourned. The motion carried by voice vote.

The closing prayer was offered by Joe Bernard and the meeting was adjourned at 1350 hours.

Signed: Edgar T. Brooks, Base Secretary



Shipmate



Shipmate

Memorial Day Service

The Memorial Day Service will be held again this year at the *National Veteran's Cemetery of Arizona*, 23029 North Cave Creek Road (entrance is off of Pinnacle Peak Road) Phoenix, on Monday, 30 May 2005, at 0800 hours. The Arizona Submarine Veterans – Perch Base will be participating in the wreath laying ceremony again this year. It is suggested that all members attending the service be at the cemetery by 0730 hours. There will be a Bell Tolling Ceremony conducted at the SVWWII Perch Memorial following the regular service at the cemetery. All hands are encouraged to attend both ceremonies with as many family members as possible. This is an excellent opportunity to educate your children, grandchildren and other family members of the sacrifices made by so many brave Americans.

Tim Moore
Commander Perch Base USSVI



SCRAMBLE GOLF TOURNAMENT

SNOW FLAKE GOLF COURSE

SAT. JUNE 11TH @ 8:00A.M.

\$50/person includes greens fees, cart & lunch
Prizes: Longest Drive(2) Closest to pin(2) Straight(2)
Raffle Tickets: \$1 ea or 6 for \$5

Proceeds for local charities. Player costs tax deductible per Publication 557:501(C)(19)

Player#1----- Player#2-----

Phone #----- Phone #-----

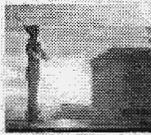
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Eternal Patrol April 8, 1945

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

The Final Patrol

Lord, this departed shipmate with dolphins on his chest is part
of an outfit known as the best.

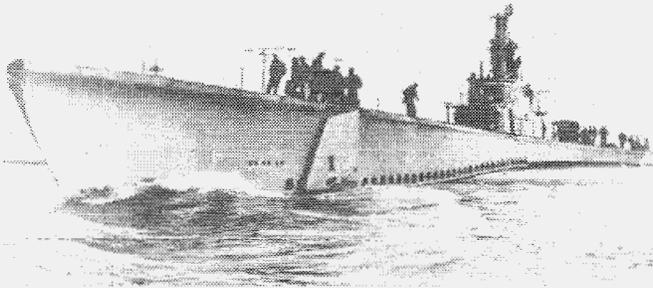
Make him welcome and take him by the hand. You'll find
without a doubt he was the best in all the land.

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.



U.S.S. Lagato (SS-371) 85 men lost



LAGARTO, under CDR F.D. Latta, departed Subic Bay, Philippine Islands, on April 12, 1945, for her second patrol in the South China Sea. On April 27, she was directed to the outer part of Siam Gulf.

LAGARTO contacted BAYA, already patrolling in Siam Gulf on May 2, 1945, and exchanged calls with her by SJ radar. Later that day BAYA sent LAGARTO a contact report on a convoy she had contacted consisting of one tanker, one auxiliary and two destroyers. LAGARTO soon reported being in contact with the convoy, and began coming in for an attack with BAYA. However, the enemy escorts were

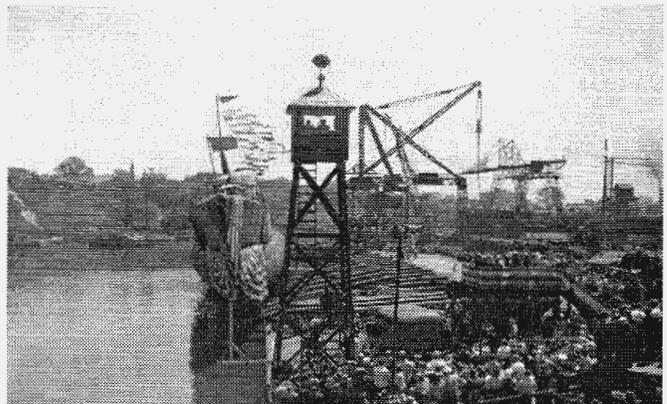
equipped with 10cm radar, and detected BAYA and drove her off with gunfire, whereupon the two submarines decided to wait and plan a subsequent attack.

Early on the morning of May 3, 1945, LAGARTO and BAYA made a rendezvous and discussed plans. LAGARTO was to dive on the convoy's track to make a contact at 1400, while BAYA was to be ten to fifteen miles further along the track. During the day, numerous contact reports were exchanged. At 0010 on May 4, after a prolonged but unsuccessful attack, BAYA was finally driven off by the alert escorts, and no further contact was ever made with LAGARTO.

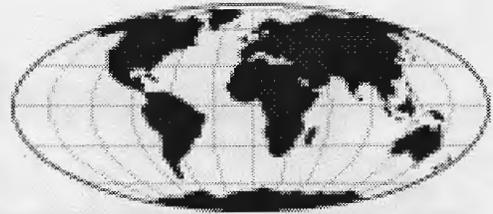
Japanese information available now records an attack on a U.S. submarine made by the minelayer HATSUTAKA, believed to be one of the two radar-equipped escorts of the convoy attacked. The attack was made in about 30 fathoms of water, and in view of the information presented above, the attack here described must be presumed to be the one which sank LAGARTO.

This vessel's first patrol was in the Nansei Shoto chain as part of an anti-picket-boat sweep made by submarines to aid Admiral Halsey's Task Force 38 in getting carrier planes to Japan undetected. She sank the Japanese submarine RO-49 on February 24, 1945, and participated in several surface gun attacks with HADDOCK and SENNET.

Two small vessels were sunk and two more damaged in those attacks, and LAGARTO shared credit for the results with these submarines. Commander Latta had previously made seven patrols as Commanding Officer of NARWHAL. Every patrol made by this officer was designated successful for the award of combat insignia, a record surpassed by no commanding officer in the Submarine Force.



Around the World



New London Sub Base to Take a Dive

EDITOR: At press time, the New London Submarine Base was on DOD's 2005 list of base closures. Since a good deal of the final results of facilities on this list is political, initial listing is by no means final. But those of us who remember when the nukes first came out -- and were berthed down stream of the bridges -- knew that it just might be a matter of time. But a little history of the base might help bring back some good memories.

History Of the New London Submarine Base

Naval Submarine Base New London is the Navy's first Submarine Base and the "Home of the Submarine Force". In 1868, the State of Connecticut gave the Navy 112 acres of land along the Thames River to build a Naval Station. Due to a lack of federal funding, it was not until 1872 that two brick buildings and a "T" shaped pier were constructed and officially declared a Navy Yard. This new yard was primarily used as a coaling station by Atlantic Fleet small craft.

On October 13, 1915, the monitor Ozark, a submarine tender, and 4 submarines arrived in Groton, CT. With the war effort in Europe and the Atlantic in full swing, additional submarines and support craft arrived the following year and the facility was named as the Navy's first Submarine Base.

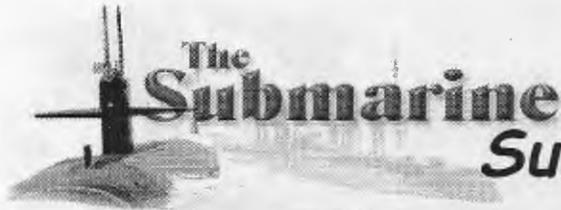
Although physically located in Groton, CT, the base had their main offices and housing in the larger city of New London, hence was christened as Naval Submarine Base New London. Following World War I, the Navy established schools and training facilities at the base. Today, the Naval Submarine Base New London (SUBASE NLON), located on the east side of Thames River in Groton, CT, proudly claims its motto to be "The First and Finest."

As homeport to sixteen attack submarines and neighbor to a major submarine construction yard, all Officers and most Enlisted submariners will be stationed here for training and perhaps a tour onboard an attack submarine or with a pre-commissioning crew while their new submarine is under construction.

The main base occupies more than 687 acres plus over 530 acres of family housing, sixteen attack submarines, and the Navy's nuclear research deep submersible NR-1. The base also supports more than 70 tenant commands including, Commander Navy Region Northeast (CNRNE), Commander Submarine Group Two (CSG2), Naval Submarine School (SUBSCOL), Naval Submarine Support Facility (NSSF), three Submarine Squadron staffs, and the housing and support facilities for more than 21,000 civilian workers, active-duty service members and their families

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Submarines in History

Fangs of Submarines - Torpedoes of the Past

Interwar Period (1918 - 1941):

During World War I, the standard American submarine torpedo was the 18-inch Mark 7. This had a maximum range of 5,000 yards, and a top speed of 35 knots, with a 326-pound warhead. As this torpedo was used in the "O" class submarines, it remained in service in training boats through World War II.

By the time the United States entered World War I the inadequacy of the Mark 7 had been recognized. As capital ships grew larger, and became better protected against torpedo attack, the small warhead couldn't cause enough damage to consistently put the target out of action. Twenty-one-inch torpedoes had already been adopted for use in surface ships, so it was logical enough to create a submarine version in the same size.

Size constraints didn't allow a 21" torpedo to be retrofitted to the "O" class boats—there was barely enough room for the 18-inch tubes—so they were installed in the new "R" and "S" class boats that were being built at the time the U.S. entered the war. (None of these boats were commissioned until after the war had ended, the first R-boat being commissioned in December 1918, and S-1, while completed in 1918, wasn't commissioned until 1920.)

With the advent of the S-boats, the standard U.S. submarine torpedo became the 21-inch Mark-10. While having a diameter only three inches larger than the old Mark-7, this was enough to allow an increase in warhead size from 326 pounds to 497 pounds. The Mark-10 was slightly faster, 36 knots vs. 35, though the range was reduced to 3,500 yards. Considering the state of aiming ability at the time, the shorter range was unlikely to be much of a problem. Most commanders would want to get the range under 1,000 yards in any case.

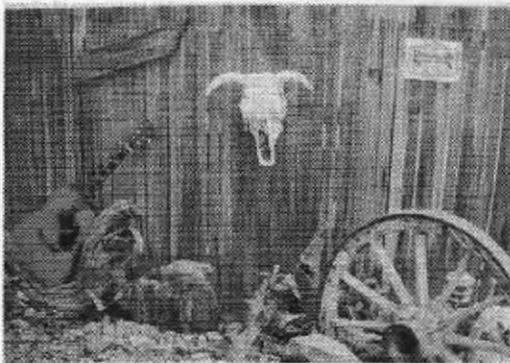
During World War II, some of the R-boats, which were employed for training, used the older Mark-9 torpedo, which had been designed for battleship use. The range of the Mark-9 was twice that of the Mark-10, but it had only a 210-pound warhead and, at 27 knots, was also slower.

World War I experience had shown that the most effective way to destroy a ship was to "break her back"—that is, to set off the torpedo's warhead under the centerline of the vessel, breaking the keel. Both the United States and Germany set to work on a method of doing this consistently, and both came up with essentially the same solution. The Japanese, who would be the United States Navy's main antagonists in World War II, took a different route.

The Japanese, always ready to one-up their potential enemies, developed the 24-inch Type 93 "Long Lance" oxygen torpedo, with a 1,720-pound warhead, that has generally been recognized as probably the most effective anti-shiping torpedo ever fielded. This was a destroyer torpedo, but Japanese submarines were equipped with the 21-inch Type 95 oxygen torpedo, with an 893-pound warhead (increased to 1,213 pounds in the Model 2 version. Rather than attempting to work out a way to insure detonation under the keel, the Japanese simply opted for a warhead large enough to insure a kill.

A major advance in interwar torpedoes was the ability to manually set gyro angles. With the older, straight-running torpedoes, it had been necessary to aim the submarine at the target—or, really, at where the target would be by the time the torpedo reached it. By setting the gyro angle, the torpedo would turn onto the proper track after it was fired.

During the 1930s, the Navy worked on the development of an electro-mechanical Torpedo Data Computer (TDC). Concurrently, the Bureau of Ordnance was busy at the Torpedo Station at Newport, Rhode Island, on a project to produce the next generation of 21-inch torpedoes. Requirements for this project included greater speed, a larger



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warhead, and incorporation of a magnetic proximity exploder to allow detonation of the warhead beneath the target, instead of against its side.

The Navy's TDC was far advanced over anything to be found in any other navy at that time. Where other navies had essentially taken the route of mechanizing the functions of an IsWas (the circular slide rule used by the Approach Officer to work out firing angles), the U.S. Navy drew their inspiration from the complex electro-mechanical computers that

directed the aiming and firing of the main batteries in battle-ships. The result was a fairly large device, located in the conning tower, that could keep track of the boat's position, course, and speed, compute and project the target's track based on multiple observations—each one, it was to be hoped, reducing the error—and transmit the information to the torpedoes, updating their targeting information right up to the moment they were launched.

If the TDC operator did his job properly, the torpedoes ran as programmed, and the target didn't change course after they were fired, the chances of a hit were about as close to 100% as it was possible to get.

The new TDC, which went into the fleet boats, where there was room to shoehorn it into the conning tower, was designed for use with the 21-inch Mark-14 torpedo. A considerable improvement over the old Mark-10, the Mark-14 was a wet-heater type, could travel at 46 knots, carried a

600-pound warhead (later increased to 660 pounds), and had a range of 4,500 yards. It could also be set to run at 31.5 knots, which extended the range to 9,000 yards. For the Mark-14, the explosive was changed from TNT to Torpex.

The Mark-14 could be fitted with the new, and very secret, Mark-6 exploder. This included a magnetic influence component that was designed to detect the changes in the earth's magnetic field that occurred as it passed under ship's hull. Just in case, there was also a standard contact exploder incorporated. The Mark-6 exploder was considered so secret that it wasn't issued to the fleet, but was held in reserve, to be issued only after commencement of hostilities. The Mark-5 exploder, a pure contact type, was issued to the peacetime fleet in its place.

Strangely, for such important technology, there were only a few live fire tests with the new torpedoes and exploders, and these were almost all conducted with exercise heads, where the explosive was replaced by water ballast that could be blown at the end of the run, bringing the torpedo—which was, of course, a very expensive piece of equipment—back to the surface to be picked up and re-used. The real consequences of this particular economy wouldn't be recognized until later.

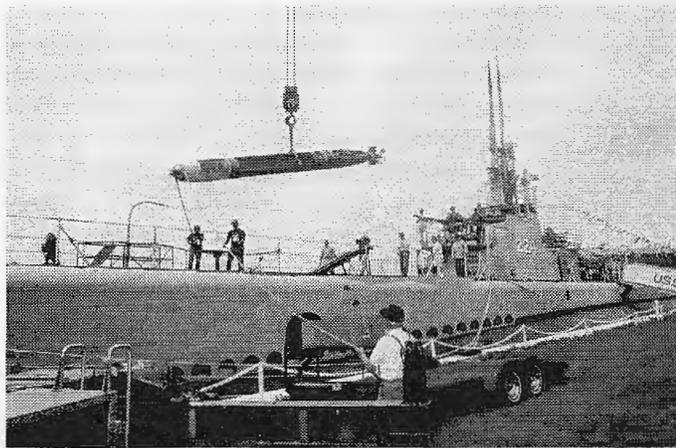
Torpedo Problems:

When the war started, the submarine force was immediately sent into action, with the order to wage "unrestricted submarine warfare" against Japan. As it turned out, it would be 18 months before this really happened, and most of the problem during that time was torpedo related.

Up to a point, the American experience paralleled that of the Kriegsmarine (German Navy), which experienced its own torpedo problems during the Norway campaign.

Initially, there was a depth keeping problem. A torpedo set to run at fifteen feet would actually run as much as ten feet deeper. This problem was compounded by the blunt statement from the Bureau of Ordnance that there was nothing wrong with the depth keeping mechanism, and the commanders were obviously just missing their targets.

Eventually, it was no longer possible to ignore the commanders' complaints. Tests were run, using the relatively simple expedient of firing torpedoes at a fish net, and it was confirmed that the Mark-14 tor-

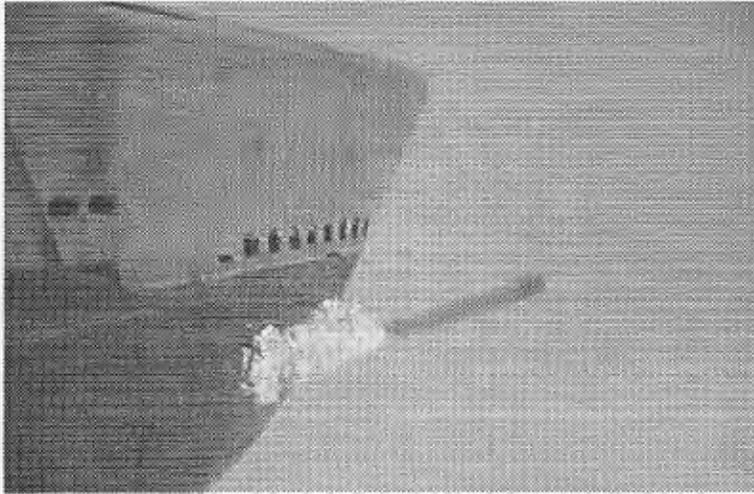


pedo was running ten feet deeper than set. After this, BuOrd finally did their own tests, at last conceding that there was a depth problem. The commanders were ordered to adjust the depth settings to compensate for the error, and new torpedoes were modified to fix the problem.

This having been accomplished, it was presumed that the success rate would now soar. It didn't.

Commanders were complaining that, even with the corrected depth settings, and perfect shots, the magnetic exploders were either detonating prematurely — which only served to warn the target and alert the escorts — or they were passing under the target and not exploding at all.

This was the second time where American torpedo problems ran along the same lines as German torpedo problems



(though the German depth keeping problem came from a leaky seal on a balance tank, and not from an engineer rather stupidly basing the settings on practice torpedoes with warheads that weighed 200 pounds less than the production version). In Norway, the U-boats had experienced the same problems with prematures and failures, using their own magnetic exploders.

The two experiences diverged at this point. The Germans recognized the problem, ordered the magnetic exploders deactivated, and went back to blowing up targets. The Americans, on the other hand, insisted that the exploder worked, and that the problem had to be in the people using it.

The Mark-6 magnetic feature was, it turned out, based on a pair of false premises. First, that the earth's magnetic field was essentially the same

everywhere and, second, that a steel-hulled ship is going to disturb that field.

In fact, the earth's magnetic field varies considerably. An exploder that worked unfailingly off Newport could fail miserably in the Pacific. And it's a relatively simple process to degauss (demagnetize) a ship's hull—something that was done routinely to warships and others going into combat areas once magnetic mines were introduced.

The American problem was compounded by RAdm Robert English, at Pearl Harbor, and RAdm Ralph Christie, in Australia. Christie had worked on the Mark-6 exploder at Newport, and was convinced that it worked. He presumed that any problems came from poor maintenance or other user error. And it wasn't until English died in a California plane crash, and Lockwood took over at Pearl, that anyone would really listen to the commanders. Lockwood allowed the magnetic exploders to be deactivated on Pearl Harbor boats, though Christie persisted in mandating their use for a while longer.

But there was a third part of the problem. Because the captains had been under orders to use the magnetic exploder, and had been setting their torpedoes to run the required five feet under their targets, few of them had the opportunity to realize that the contact exploder was also defective.

Now, time after time, a perfect shot would send a torpedo squarely into the side of a target, only to have it fail to explode. It might punch a hole in the side of a freighter, but most likely not something that couldn't be repaired at sea. And with a warship, made of thicker steel, it might do nothing more than cause a small dent.

Curiously, bad shots, made at extreme angles, where the torpedo hit the target at an oblique angle instead of square, very often resulted in the warhead detonating and the target going down.

Lockwood ordered more tests. Swede Momsen suggested firing live torpedoes at the cliffs on Kahoolawe, which rose vertically from the sea. Three torpedoes were fired from U.S.S. Muskallunge, with the third failing to explode. Navy diver John Kelly found the dud and swam down to attach a line. The torpedo was



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hauled aboard the rescue/salvage vessel Widgeon and returned to Pearl Harbor, where it was taken apart.

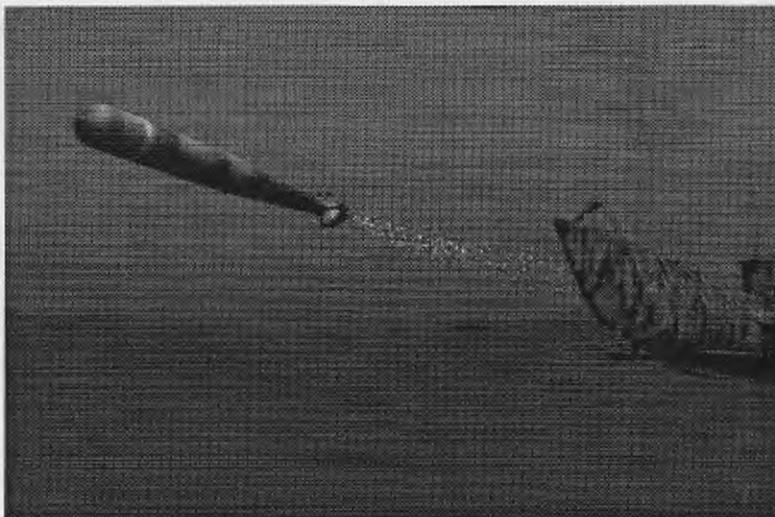
It was found that the contact mechanism, built to essentially the same standards as that in the slower Mark-10 torpedo, had failed under the greater impact of the much faster Mark-14. Instead of striking the primer, the firing pin had bent and jammed in the guides, which had also distorted. More tests were made, this time by dropping dummy warheads fitted with live exploders onto steel plates from a height of 90 feet, confirming the diagnosis.

Once understood, the problem was fairly easy to fix. New firing pins were machined from a light, high-strength aluminum alloy—the metal reportedly came from the propellers of Japanese fighters shot down during the Pearl Harbor raid—and the guides were strengthened, so that they would hold up long enough for the firing pin to strike the primer and detonate the warhead. This "PHM" (Pearl Harbor Modification) was fitted to all the torpedoes in the inventory, and the changes incorporated into new production.

After that, the Mark-14 torpedo suddenly became a model of reliability, and sinkings finally did soar.

Electric Torpedoes:

American torpedoes were wet heater, or "steam" types. Alcohol was burned in a combustion chamber, using compressed air as an oxydizer—the largest part of a torpedo was the air flask—which produced a high-pressure "steam" exhaust that could be used to power a small turbine. This was geared to a pair of counter-rotating screws. The Japanese used a similar design, but with pure oxygen instead of compressed air, which reduced exhaust—mostly the incombustible nitrogen from the compressed air—and took up less room, allowing for the larger warheads in Japanese designs.



The exhaust was one of the greatest perceived problems with the Mark-14 and its predecessors, since it left a trail of bubbles marking the course of the torpedo as it ran in on the target. Not only did this potentially warn the target, but it could also give the escorts a starting point for their hunt.

The solution was obvious: build a torpedo that didn't leave a bubble trail. As far as the Bureau of Ordnance was concerned, obvious and accomplished were usually two different things. This was no exception. Newport experimented with electric torpedoes, but the basic design of the Mark-18 electric torpedo came from an entirely different source. The British supplied a captured German G7e torpedo, and this was copied, with the modifications needed to fit correctly in American torpedo tubes and interface with the TDC. When the Torpedo Station couldn't build them fast enough, Westinghouse was contracted to build torpedoes, which they did, in a highly efficient manner.

With a maximum speed of 30 knots, the Mark-18 was slower than the Mark-14, but also much harder to spot in the water. It had a 575-pound warhead, and a maximum range of 4,000 yards.

As for the exhaust problem, studies after the war suggested that the bubble track was almost never spotted by Japanese lookouts. At least, not until the torpedo was too close to avoid. And as the Mark-14 ran much faster, it was actually more likely to get a hit.

Homing Torpedoes:

One of the more interesting wartime developments was the Mark-27 "Cutie" homing torpedo. This had a number of problems, but could be effective under the right circumstances. It was very slow, which limited its utility against anything doing more than 8.5 knots. It was also non-discriminating. The rules dictated firing no shallower than 150 feet, since the torpedo simply homed in on the loudest noise in the area. Too shallow, and that might just be the submarine that fired it.

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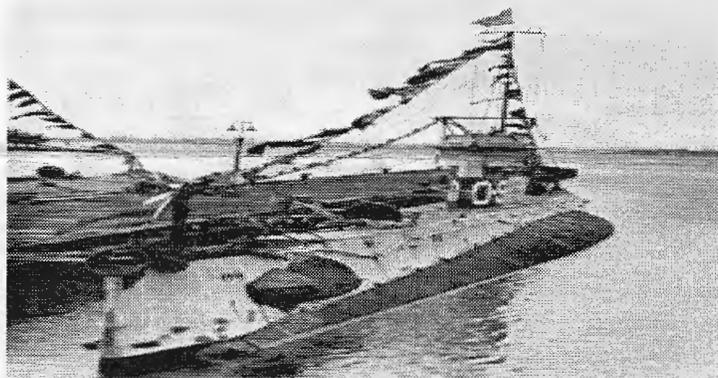
The Mark-27 was a submarine version of the air-dropped Mark-24 "Fido" anti-submarine torpedo—referred to as a "mine" for security reasons—adapted for use against surface ships. One former Navy Aviation Ordnanceman, who was involved in dropping the originals from a B-26 in the Pacific, pointed out one minor problem that sometimes cropped up. If two were dropped together, they would often forget to look for the submarine and chase each other around in a circle instead. After this was noticed, the torpedo release mechanism was modified to allow only single releases.

Submarines would fire only one torpedo at a time, so this problem didn't arise. These were 19-inch models, and carried a very small warhead (92 pounds for the Mark-24, 95 pounds for the Mark-27). In the original anti-submarine role this was enough, since it only needed to punch a small hole in the pressure hull and water pressure would take care of the rest. In the anti-escort role, the "Cutie" would home in on the escort's screws, and the small warhead was likely to be enough to blow off a screw and put the escort out of action. It wasn't necessary to kill an escort so long as you could get it stop trying to kill you.

Mystery of Sunk Sub Re-examined in Survey

By Cara Berkley, Naval Historical Center Public Affairs

WASHINGTON (NNS) — The Naval Historical Center (NHC) received the official report in April from a September 2004 survey, which shed light on the loss of the submarine USS O-9, which mysteriously sank June 20, 1941, with the loss of all 33 Sailors.



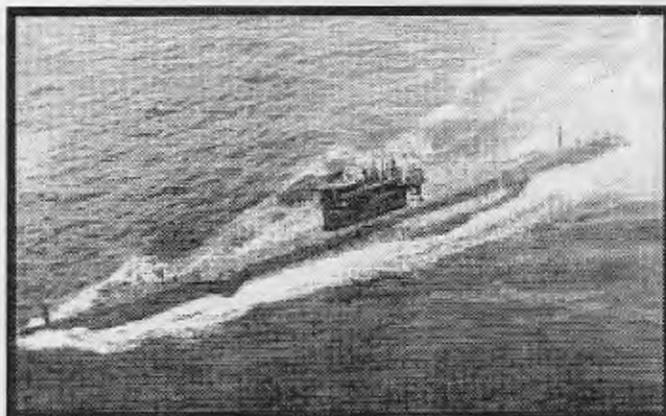
Coordinated with the NHC, the survey was undertaken by the National Undersea Research Center (NURC), the National Oceanic and Atmospheric Administration, and the History Channel Series, *Deep Sea Detectives*.

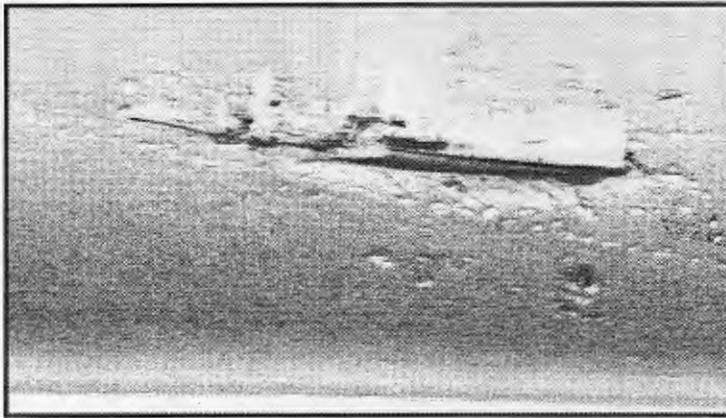
"The NHC is responsible for archiving the Navy's history and as such, safekeeping this report ensures that the Center and the Underwater Archeology Branch in particular continues to fulfill its mandate," said Dr. Robert Neyland, Underwater Archaeology Branch, NHC.

The wreck of the submarine, renumbered SS-70 in 1941, was examined over three days using a NURC research vessel and remotely operated vehicle (ROV). The Research Center's staff and crew were able to confirm the exact position of O-9, which is situated at an upright angle at an average depth of 409 feet and remains virtually intact despite the decades it has spent permanently submerged on the New London seabed.

"The objectives of the survey included determining the condition of the vessel, collecting video and photographic documentation, and investigating a potential cause for the submarine's loss," said Dr. Susan B.M. Langley, senior scientist/principal investigator. "The report indicates that these aims were largely achieved despite the interference from marine life."

The film crew faced the challenge of navigating the ROV while carefully avoiding entangling fishing nets that surround the submarine's bow. When approaching from the stern, the survey discovered that the most severe damage to the vessel is in the vicinity of the engine room and the aft battery compartment.





The above 500 kHz image clearly shows the submarine. Bow is to the right, stern is to the left. It appears that the hull was crushed just behind the center conning tower. The dark contact to the left and behind the conning tower is a large fishing net that was snagged on the submarine. The line of depressions dropping, off in front of the submarine, were most likely formed by trawler doors skipping across the bottom.

"Dr. Langley's survey of the USS O-9 provides the Navy with a fresh look at the wreck and the grave site," said Neyland. "This survey and the following documentary illustrate that the Navy's history, tradition, and sacrifice survives in the sea."

Due to the Japanese attack on Pearl Harbor, just six months after the sinking, the tragedy was almost forgotten. This remained the case until 1997, when retired naval officer and diver Glen Reem



personally persuaded Klein Associates, a sonar designer and supplier, to run a sonar search to relocate the stricken submarine, reopening interest in the O-9 mystery.

During the survey, a film crew from History Channel's Deep Sea Detectives documented, filmed and chronicled the research team's activities, which will be featured on an upcoming episode entitled "The Forgotten Sub of WW II", which is due to air in May. Descendants of the lost Sailors also participated in the documentary by throwing a commemorative wreath in memory of their relatives who have not received the same attention as their shipmates lost in action during World War II.

Our Fellow Vets Can Use Our Help

Our fellow veterans who reside in the Veteran's Home here in Phoenix could use our assistance. For any of you who are willing and able to participate in some volunteer work, your help would be greatly appreciated. Resident's activities include:

1. Bingo every Saturday at 0900.
2. Card playing (poker, etc.) every Monday at 0930.
3. Movies the 3rd Thursday of the month at 1400.

Volunteers help in moving residents from their units to Liberty Hall for these activities. They also play cards with the residents and help serve ice cream, pop corn, etc.

Extra help will especially be needed this coming March 30. Beginning March 30, and every 5th Wednesday thereafter, we will be going to a local casino. The time for this event will be from 0930 until 1430. Again, extra help here would be especially appreciated.

For details regarding volunteer services, contact:

Carrie Langford, CTRS
Recreational Therapy Program Manager
Volunteer Services
Phone - 602-248-1575
E-mail - clangford@azvets.com

Thank you for you assistance!



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loji53@skyboot.com

Vice Commander:
Dick Jarenski
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Meeting Minutes

Members present at the April 2005 meeting:

Jim Clewett, Dee LeFevre, Adam Dykman, Buck Biddle, Armand Deprins, Frank Nagle, Steve Day

March meeting minutes

The meeting was called to order at 11:07 AM with an invocation, Pledge of Allegiance, reading of our creed, and tolling of the bell. There were no new members present, Nick and Dick Todhunter and Sam Holcomb AD1 (AW/NAC) from the Show Low Navy Recruiting office were guests. Sam Holcomb gave a good presentation about local recruiting and Aviation Warfare

The meeting minutes for March were read and accepted. The Treasurer reported that here is \$942.00 in the treasury. No committee chairs were present.

Jim Clewett reported that the golf tournament is coming together and passed out the applications.

The Pleasant Valley Days parade in Young will start at 9 AM, form up by 8:30 AM to march/ride. Buck Biddle reported that the submarine float will be ready by Memorial Day. Adam Dykman will serve as White Mountain Base historian. We will have a float in the 4th of July parade in Heber.

Springerville would like for us to have a float and participate in the Veteran's Day parade.

The next meeting will be 21 May 2005 at 11:00 AM at 11:00 AM. The 50/50 drawing was won by Armand Deprins (again), who donated the \$12.00 to the treasury. The meeting was adjourned at 11:48 AM with a closing prayer.

Commander's Corner

Spring is here – the birds are singing – flowers in bloom and it's warming up, we all want to be outside.

In less than 2 months we have our 1st Golf Tournament (June 11th) and we will need all the help that we can get at the Golf Course – wives, girl friends, friends and anyone else. If you have neighbors that play, inform them of the tournament.

I think that with all the work we will be putting into the tournament that it should take the place of our June meeting – because the meeting is the following weekend. Let me know at the May meeting what you think.

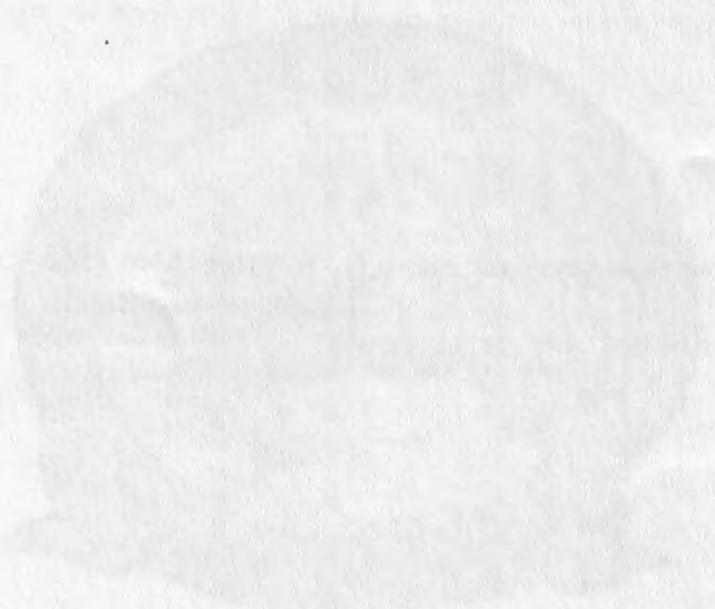
Anyone with an RV who wants to be in the tournament may park at mine or Armand's house – we have water, electric, and dump.

Frank Ozga is eligible for the Holland Club. He has been qualified for more than 50 years, I am hoping he will return in the spring as always.

Fraternally Yours,
Jim Clewett
Commander



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NEXT REGULAR MEETING - May 21, 2005
American Legion Post #62
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Starts at 1200 hours