



The USSVI Requin Base supports the National 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."

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Officers (National & Local)	3	month, normally at the Baden PA American Le-	
Binnacle List	4	gion. Quarterly meetings are held around our	
Eternal Patrol	4	membership area.	
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Articles of Interest		of submission in the SVD.	
National Submarine Day	16	We are a SUBMARINE group. As such, the arti-	
Submarine-Launched Aerial Drone	19	cles should be of SUBMARINE or NAVY related.	
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		Lou Hamill - itgeek8088@gmail.com	

MAKE A DIFFERENCE, ATTEND A MEETING!

Our Website

For additional information about what is happening at YOUR base, go to

https://www.requinbase.org/

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CARANCE F			
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	-		
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USS Requin Base Officers

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USS Pickerel (SS-177)

Lost on April 3,1943 with the loss of 74 officers and men, while on her7th war patrol. She was lost off Honshu. The exact cause of her loss has never been determined, but her OP area contained numerous minefields.

USS Snook (SS-279)

Lost on April 8,1945 with the loss of 84 officers and men. Snook ranks10th in total Japanese tonnage sunk and is tied for 9th in the number of ships sunk. She was lost near Hainan Island, possibly sunk by a Japanese submarine.

USS Thresher (SSN-593)

Lost on April 10, 1963 with the loss of 112 crew members and 17 civilian technicians during deep-diving exercises. 15 minutes after reaching test depth, she communicated with USS Skylark that she was having problems. Skylark heard noises "like air rushing into an air tank" - then, silence. Rescue ship Recovery (ASR-43) subsequently recovered bits of debris, including gloves and bits of internal insulation. Photographs taken by Trieste proved that the submarine had broken up, taking all hands on board to their deaths in 1,400 fathoms of water, some 220 miles east of Boston.

USS Gudgeon (SS-211)

USS Gudgeon (SS-211) was probably lost on April 18, 1944 with the loss of 79 men SE of Iwo Jima, but may have been sunk on May 12, 1944 in

another attack on an unidentified submarine and heard by several other submarines in the area. Winner of 5 Presidential Unit Citations, Gudgeon was on her 12th war patrol and most likely due to a combined air and surface antisubmarine attack. Gudgeon was the first US submarine to goon patrol from Pearl Harbor after the Japanese attack. On her first patrol, she became the first US submarine to sink an enemy warship, picking off the submarine I-173.

USS Grenadier (SS-210)

Lost on April 22,1943 near Penang, with no immediate loss of life. She was on her 6th war patrol. While stalking a convoy, she was spotted by a plane and dove. While passing 130 feet, Grenadier was bombed, causing severe damage. She was lodged on the bottom 270 feet and the crew spent hours fighting fires and flooding. When she surfaced, she had no propulsion and was attacked by another plane. While she shot down the plane. When enemy ships arrived, the CO abandoned ship and scuttled the boat. Of the 76 crew members taken prisoner, 72 survived the war.

Birthd	Anniversaries		
Member	Spouse		
Bruce Ladrie 05/04/37 Vincent Metz 05/09/67 Robert Solinger 05/13/37 Alfred Regits 05/14/32 Edward Lyons 05/23/38 John Stewart 05/23/40 Larry Boutelle 05/27/33	Gosia Humes13-MayStephanie Foster17-MayCarrie Spencer17-MayAlexandra Good1Linville18-MayDonna Greenlee19-MayHelen Donnelly20-MaySandra Lindsey20-MayCathleen Naso20-MayJudith Underkoffler22-MayKimberly Masterson25-MayConnie Bruce30-MayNita Campbell31-May	Renee Stuebgen & Jess WilliamCoker11-MayCarolyn & Harry Sills16-MayJill & Joseph Campisi18-MayKimberly & Charles Masterson18-MayFrances & Russ Osborne21-MayBarbara & Edward Zdarko27-MayBeverly & James Bence28-MayJude & Robert Meyers29-May	

Commanders Corner



WOW! – Our April meeting was attended with over 35 members, first mates and guests. In attendance were Jack Sutherin, John Stewart and Ric Guntang. They traveled from Ohio, Virginia and Penn State to be with us – KUDOS Shipmates. The meeting was important on two issues. It was held a day before the Submarine Force Birthday and the 2021 Holland Club Inductees.

It was the 121st birthday of the submarine force and we had six members joining the Holland Club which are Bolcato, Bonnett, Elias, Shrump, Small, Underkoffler and Lowry who were honored for 75 years in the Hollond Club. Shrump, Small and Underkoffler were present. It was a great ceremony conducted by Joe Campisi, Holland Club Chairman and Dick Geyer, the Holland Club Co-Chair, and all appreciated the beautiful gifts and certificates. We will send the gifts out to the shipmates who could not make it. We had a beautiful cake made for the occasion.

This was our first normal meeting in over a year and we honored everyone in attendance with a catered meal. To play it safe, we recruited two mess cooks, Carl and Lou to serve the crew and first mates – it looked like they did not miss a beat from their days MESS-COOKING. As in all our regular meeting, we shared our meal with the American Legion members, who appreciates our kind gesture. Doc Wong addressed the group to thank us and told us that the Legion is really happy for us to have our meeting at their home.

Shipmate Bill Lindsey will be representing the base at the Arizona Silent Service Memorial in Phoenix, Ax, on Saturday, April 17th. He will give a report on his return. Kudos to Bill for his support.

The Idaho fund is coming along just great. Prior to the meeting we had a balance in the fund of \$6,970.00. Shipmate George Brown made a contribution of \$250.00 and was immediately matched by Shipmate Chad Underkoffler. In addition to their contributions, we had numerous other contributions which are still being added. Also, we have started an Idaho fund raiser of Submarine Beer Taps. For every donation of \$125.00, you will receive a Submarine beer Tap with your boat number on it along with a Sub Tap Handle Stand. Of course, if you only want the Sub Beer Tap without the stand, a contribution of \$90.00 will put the beer tap on your keg. As of today, we have received contributions for six beer handles – KUDOS to all the shipmates who are supporting our efforts.

We sent forty-five (45) small chocolate easter bunnies to the crew of the Idaho for their kids. They responded with the most gracious letter saying– "We got the bunnies, and handed them out. The crew was absolutely thrilled and the whole command sends its most heartfelt thanks to you all!

The CO, XO and COB wanted me to let you know how kind and thankful this was, and sends their personal thanks and warmest regards. If there is anything we can do to thank you, please never hesitate to let us know, Kindly, Andrew"

Shipmate Clair Bouts, who has stored our Float of the Nautilus, will be moving. So we need another shipmate to step forward to store the Float. Please contact me ASAP and let me know. In addition, we also need a shipmate to send hard copies of the SVD to the base members who do not have a computer. In addition, we need a base photographer. These are very important positions within the club, so if you're interested, PLEASE step forward.

JOINT WEBCAST

We are planning on having a joint Webcast with Admiral Seif and Captain Jason Deichler. They are both members of the base and have extended the invitation to both us and the Navy League. Captain Tom Clark, who is a member of the base and President of the Navy League and a Requin Base member, will jointly collect Q & A submitted by the both memberships.

NATIONAL REPORT FROM THE AD HOC COMMITTEE FORMED TO REVIEW THREE MEMBERSHIP ISSUES

Membership consisted of the following: Steve Bell, NJVC-Chair; Dennis Nardone, National Office Manager; Ray Wewers, National Secretary; Skip Turnbull, National Parliamentarian/Chair of Constitution and By-Laws Committee; and Bill Andrea, National POC Manager.

Each issue is listed below with the Committee's solution/recommendations.

Allow a surviving spouse to assume the Life Membership of a departed Member without a need for a Sponsor.

By definition, when a Life Member goes on Eternal Patrol, the membership expires at that point.

The Committee does not recommend this policy be adopted. Accordingly, a Base can either pay the spouse's dues as an Associate Member if the spouse desires to remain on the National Roster or allow the spouse to be an "Honorary Member" of the Base so that they may participate as much as desired.

Such a change would not only require substantial bylaw changes, but would also increase the workload of the National Office.

Allow a USSVI Life Membership to be paid over a 12-month period.

The Committee recommends that a Base offer this option to any Member requesting it for any period of time the Base approves. The Base would collect the dues and submit them in whole to the National Office once the entire amount is collected. There is at least one Base currently offering this option.

If this process were handled by the National Office, it would cause a significant increase in workload for the National Office. It has been tried in the past without success.

Add a new category of Life Membership that would be above the current level and give a Member the benefit of discount prices at the National Convention.

The Committee recommends this not be considered by the Board of Directors. One level of Life Membership is sufficient. Again, a new category of membership would increase the workload of the National Office and require bylaws changes. Such a membership benefit (suggested) would also subtract from the profits of the host Base of the National Convention. If a base desires to do this Life Membership will not be granted or will the Life Member card be issued until the base collects the full amount and submits it to the National Office (in one payment).

Yours Respectfully, Steve Bell NJVC and Ad Hoc Committee Chair



Chaplin's Column

Greetings to all my fellow Requin Base shipmates, spouses, and associate members,

Before I enter into my column, I sadly must report the passing of RMC(SS) Joseph J. Heroux. He served on the Requin but was not a member of USSVI.

As we continue to walk through some of the many promises in God's Word, I am in remembrance of a Scripture from 2nd Timothy

2 Timothy 3:16

All scripture is given by inspiration of God, and is profitable for doctrine, for reproof, for correction, for instruction in righteousness:

What a great scripture and promise that God has made to us. No scripture is unprofitable, but is good for instruction, doctrine (what to believe), Reproof (when we have believed incorrectly) and Correction, (when we continue in our improper application and now Gods Word confronts us and corrects us back to correct believing. God's Word convers all situations in our spiritual life. Another powerful scripture is from James

James 5:16

Confess your faults one to another, and pray one for another, that ye may be healed. The effectual fervent prayer of a righteous man availeth much.

When we come before God in prayer and are humble amazing things can come to pass just because God wants to bless us.

Do you have a topic that you would like looked at or expounded on? Let me know as my desire is to bring you all into the conversation so to speak

Please pray for our brothers and sisters deployed in harm's way and for those other service members deployed overseas in combat or support areas. Pray for our Country and leadership. Please know that I lift all of you up in prayer much every day.

In His Service, Carl Stigers National Chaplain/ Requin Chaplain



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Store Keepers Report

00 Please visit our online store at https://requinbase.org/shop/ 2015 Convention Challenge Coins Hats Non Specific You can have your items shipped to you at home via USPS [for a small fee], or pick them up at the next USSVI meet-Patches Requin Base



April 10, 2021 American Legion Houston, PA & Zoom

Base Commander Huey Dietrich called the meeting to order.

Attendees: Mike Allen, Tino Bolcato & Sally, Eric Bookmiller, Lee Bookwalter, Clair Bouts, George Brown, Joe Campisi, Tom Clark, Ed & Mary Jane Derr, Huey Dietrich, Dick Geyer, Bob Gourley, Bill & Donna Greenlee, Ric Guntang, Lou Hamill, John Held, Bill Lindsey, Bat Masterson, JB Messer, Chuck & Debby Shrump, Jeff Simon, Keith & Connie Small, John Stewart, Carl Stigers, Terry Swinney, Jack Sutherin, Chad Underkoffler

Base Commander Huey Dietrich: Quotes of the day: "Take your sub quals seriously. Just remember when you report to your new boat submarining is no big deal. Any ship in the Navy can sink but it is your ability to make the other part happen that counts."

Requin History: April 28, 1945 commissioned with Commander Slay D. Cutter in command. April 4, 1967, Requin departed for 6th Fleet deployment.

Base Commander Huey Dietrich: Let us at this time, with a moment of silent prayer, remember our Shipmates who made the supreme sacrifice that we may gather here in Peace. We dedicate this meeting to our Shipmates on Eternal Patrol, to perpetuate their memories in our lives and to honor our Shipmates on active duty in the service of the first line of defense of our Nation.

Boats Lost:

USS PICKEREL (SS 177) April 3, 1943 USS SNOOK (SS 279) April 8, 1945 USS THRESHER (SSN 593) April 10, 1963 USS GUDGEON (SS 211) April 18, 1944 USS GRENADIER (SS 210) April 22, 1943 We also remember our departed members of the Requin Base David Helmold, Jack Kordes and Larry Simon Let us also remember the brave submariners who died performing their duties aboard submarines

mon. Let us also remember the brave submariners who died performing their duties aboard submarines, some individually and some in groups, but where the submarine itself was not lost.

Chaplain Carl Stigers gave the Invocation.

Members introduced themselves and the boats they qualified on.

Base Secretary Jeff Simon reported that Minutes of the previous base meeting were published in the SVD. With no objections, the minutes were approved as published.

Treasurer Lee Bookwalter gave an accounting of base assets, expenditures, and deposits which are available upon request. With no objections, the report was approved.

Other Reports:

Binnacle List: Judy Elster, James Kontir, Edie Dietrich Eternal Patrol: None Membership stands at 197. A summary of changes to membership was given.

Base Commander Huey Dietrich reported on small stores, USS Idaho items and ordering items online.

Base Commander Huey Dietrich reported on Eagle Scout court of honor presentations.

Memorial And Ceremonies

American Legion Stand Down, April 24th. Carnegie Parade on May 30 cancelled Canonsburg Parade will be held on Saturday July 3rd at 10am.

Old Business:

Fund raising for USS Idaho support activities stands at \$6,971.00 towards our goal of \$10,000.

New Business:

Report given from National Ad Hoc Committee related to USSVI membership issues.

George Brown has donated \$250.00 to the USS Idaho Fund and challenges other shipmates to match his donation.

Good Of The Order:

Easter chocolate bunnies were delivered from Requin Base to the USS Idaho on time for their children for Easter.

Next issue of the American Submariner has an article submitted by Eric Bookmiller.

National Submarine Day is April 11th.

Holland Club Ceremony was held for Bolcato, Bonnett, Elias, Shrump, Small, Underkoffler, Lowry, Emmett The base will participate in a joint webcast with the Navy League.

Chaplain Carl Stigers gave the Benediction and blessing of today's meal.

Adjournment: The meeting was adjourned.

Next meeting: American Legion Baden PA at 1230 hours on May 8, 2021

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American Legion Stand Down, April 24th.

Carnegie Parade on May 30 cancelled

Canonsburg Parade will be held on Saturday July 3rd at 10am.



Public Affairs

Requesting that shipmates send Ed Derr, the Base PR person, the name of their local newspaper. (Dailey or weekly) and e-mail address or telephone number of the paper.

The purpose besides building a data base is to include news of the Requin Base activities, purpose, upcoming events and contact information.

Thank you for your help and all that you do for the members and the Base.

Best regards, Ed Derr 2250 Shenango Valley Freeway Apt. *#* 7 Hermitage, PA 16148 rredde@gmail.com 724-854-0781

MEMBER		Membership			
Regular Members	181	Holland Club	89	USSVI Life Members	75
Associate Members	13	WWII	5	Base Life Members	50
Total Members	197				

New Members



John Bistolas qualified on the TENCH (SS-417) in 1960 as an EM. He left the Navy in 1963 as a EM2(SS). John lives in Mercer, Pa., with his first mate Elizabeth. Please e-mail John and welcome him aboard – jgb@zoominternet.net





Featured Boat

and the second s	
	Class overview
Operators:	United States Navy
Preceded by:	none
Succeeded by:	Plunger class
	History
Name:	Holland VI (1897–1900)
	USS <i>Holland</i> (1900–1910)
Namesake:	John Philip Holland
Builder:	<u>Crescent Shipyard</u> Elizabeth, New Jersey
Laid down:	November 1896
Launched:	17 May 1897
Acquired:	11 April 1900
Commissioned:	12 October 1900
Decommissioned:	17 July 1905
Stricken:	21 November 1910
Fate:	Sold 18 June 1913; on display in a
	park in <u>Paterson</u> , New Jersey until
	sold for scrap, 1932
Ge	neral characteristics
Class and type:	Midget submarine
Displacement:	64 long tons (65 t) surfaced
	74 long tons (75 t) submerged
Length:	53 ft 10 in (16.41 m) <u>LOA</u>
Beam:	10 ft 4 in (3.15 m) extreme
Draft:	8 ft 6 in (2.59 m)
Installed power:	45 <u>bhp</u> (34 kW) surfaced
	75 bhp (56 kW) submerged
Propulsion:	1 × gasoline engine,
	1 × electric motor,
	66-cell battery,
	1 shaft
Speed:	6 knots (11 km/h; 6.9 mph) surfaced
	5.5 knots (10.2 km/h; 6.3 mph) sub-
	merged
Range:	200 <u>nmi</u> (370 <u>km;</u> 230 <u>mi</u>) at 6 kn
	(11 km/h; 6.9 mph) surfaced
	30 <u>nmi</u> (56 <u>km;</u> 35 <u>mi</u>) at 5.5 kn
	(10.2 km/h; 6.3 mph) submerged
Test depth:	75 feet (23 m)
Complement:	6
Armament:	1 × <u>18 inch (450 mm) torpedo</u>
	tube (3 torpedoes)
	1 × 8.425-inch (214.0 mm) dynamite
	<u>gun</u>
	<u>Yan</u>





04/01/1943

USS Shad (SS 235) torpedoes and damages the Italian blockade runner Pietro Orseolo, shortly after the Italian ship reaches the Bay of Biscay and her escort of four German destroyers.

04/02/1943

USS Tunny (SS 282) sinks the Japanese transport No.2 Toyo Maru west of Truk.

04/02/1991

USS Chicago (SSN 721) arrives at San Diego, Calif., homeport following Operation Desert Storm. During the six-month deployment, the attack submarine works with US and coalition forces deployed to the Southwest Asia area of operations, conducting surveillance and reconnaissance operations.

04/03/1943

USS Haddock (SS 231) sinks Japanese fleet tanker Arima Maru north of Palau, and USS Pickerel (SS 177) sinks Japanese submarine chaser Ch 1.

04/04/1943

USS Porpoise (SS 172) sinks the Japanese whaling ship Koa Maru near Eniwetok.

04/06/1945

USS Besugo (SS 321) and USS Hardhead (SS 365) sink ships in Japanese convoy HOMO-03.

04/07/1990

The Los Angeles-class fast attack submarine USS Albany (SSN 573) is commissioned at Naval Station Norfolk.

04/07/1979

USS Ohio (SSBN 726), the first Trident submarine, launches at Groton, Conn. She is commissioned into the Navy in November that same year. Following a conversion to a guided-missile submarine in 2006, she is now SSGN-726.

04/08/1944

USS Seahorse (SS 304) and USS Trigger (SS 237) successfully attack a Japanese convoy off Guam, damaging a Japanese destroyer and a tanker.

04/10/1942

USS Thresher (SS 200) torpedoes and sinks Japanese merchant cargo ship Maru six miles north of Oshima, near the entrance to Tokyo Bay, Honshu, Japan.

04/10/1963

During diving tests, USS Thresher (SSN 593) is lost with all hands east of Cape Cod, Mass., including commanding officer and 17 civilian technicians.

04/11/1900

United States Navy Acquires USS Holland (SS-1)

04/11/1944

USS Redfin (SS 272) sinks the Japanese destroyer Akigumo in the eastern entrance to Basilan Strait.

04/11/1992

USS Annapolis (SSN 760) is commissioned at the Electric Boat Division at Groton, Conn. The 10th of her Los Angeles "Improved" class of attack submarines.

04/12/1944

USS Halibut (SS 232) sinks Japanese army passenger/cargo ship Taichu Maru despite the presence of at least three escort vessels.

04/13/1942

USS Grayling (SS 209) sinks the Japanese freighter Ryujin Maru off southest tip of Shikoku, Japan.

04/13/1944

USS Harder (SS 257) sinks the Japanese destroyer Ikazuchi, 180 miles SSW of Guam.

04/14/1945

USS Tirante (SS 420), commanded by Lt. Cmdr. George L. Street III, attacks a Japanese convoy in the approaches to the Yellow Sea and sinks a transport ship and two vessels. Street earns Medal of Honor for his actions.

04/16/1942

USS Tambor (SS 198) sinks the Japanese stores ship Kitami Maru 50 miles southeast of Kavieng, New Ireland.

04/17/1942

USS Searaven (SS 196) begins rescue of stranded Australian sailors, airmen, and soldiers from Japaneseoccupied Timor, N.E.I.

04/20/1944

USS Seahorse (SS 304) torpedoes and sinks Japanese submarine RO 45 off the Mariana Islands.

04/20/1964

USS Henry Clay (SSBN 625) launches a Polaris A-2 missile in the first demonstration to show that Polaris submarines could launch missiles from the surface as well as from beneath the ocean.

04/22/1945

USS Hardhead (SS 365) sinks Japanese cargo vessel Mankei Maru off Chimpson and USS Cero (SS 225) sinks the Japanese guardboat Aji Maru west of Tori Jima and damaged the guardboat No.9 Takamiya Maru.

04/24/1943

USS Seawolf (SS-197) sinks Japanese Patrol Boat #39 off east central coast of Formosa, while the enemy warship is screening the towing of the wrecked Nisshin Maru.

04/23/1945

USS Besugo (SS 321) sinks the German submarine U 183 in the Java Sea.

04/24/1981

USS San Francisco (SSN 711) is commissioned at Norfolk Naval Station, Va.

04/25/1944

USS Crevalle (SS 291) sinks Japanese army cargo ship Kashiwa Maru, north of Borneo and USS Guvania (SS 362) sinks Japanese army cargo ship Tetsuyo Maru, northwest of Chichi Jima.

04/26/1960

USS George Washington (SSN 598) conducts a Polaris missile test firing in Long Island Sound in the Atlantic Ocean.

04/27/1944

USS Bluegill (SS 242) torpedoes the Japanese light cruiser Yubari west of Sonsorol Island, while USS Halibut (SS 232) sinks Japanese minelayer off Okinawa.

04/27/1963

USS Daniel Webster (SSBN 626) is launched at Groton, Conn. Commissioned a year later, she serves until decommissioned in August 1990.

04/28/1945

USS Sennet (SS 408) sinks the Japanese cable layer Hatsushima off Kii Strait, south southeast of Miki Saki; USS Springer (SS 414) sinks the Japanese submarine chaser CH 17 west of Kyushu as she is escorting landing ship T.146, and USS Trepang (SS 412) sinks T.146 off Ose Saki, Japan.

04/29/1944

USS Pogy (SS 266) sinks the Japanese submarine I 183, 30 miles south of Ashizuri Saki, Japan.

04/30/1944

USS Bang (SS 385) attacks a convoy engaged the previous night and sinks the Japanese merchant tanker Nittatsu Maru off the northwest of Luzon. Also on this date, USS Flasher (SS 249) sinks the Vichy French gunboat Tahure in the South China Sea off Cape Varella, French Indochina.





National Submarine Day – April 11, 2021



National Submarine Day is on April 11 and it celebrates the purchase of the USS Holland, the first modern commissioned submarine. This day is important to the submarine community as it honors the US Navy's purchase of their first modern submarine, but life underwater isn't all that glamorous. Often, crews are out at sea for months at a time and return when food supplies run low. Subs can be cramped with tedious tasks to complete daily, and some might not always be the best of friends with everybody on board. It's not just enemies and the sea they have to contend with.

HISTORY OF NATIONAL SUBMARINE DAY

National Submarine Day celebrates the United States government's purchase of the Holland VI, but it actually wasn't the first submarine the US had. The USS Alligator was the first known submarine owned by the United States. On August 10, 1832, Brutus Villeroi completed work on his submarine, possibly called the Nautilus, and showcased his invention off the coast of France.

At that time, the submarine was known as a "fish boat" that measured 10 feet 6 inches in length and 3 feet 7 inches at the widest diameter. The fish boat submerged, reaching depths of 20 feet and it was an impressive display. In 1861, Villeroi designed the USS Alligator that the United States sank in the ocean on April 2, 1863, after losing a battle with a brutal storm.

On April 11, 1900, the US government purchased the Holland VI for \$150,000 designed by Irish-American inventor John Phillip Holland and commissioned on October 12, 1900. It was commanded by Lieutenant H.H. Caldwell and deemed the first modern submarine with a host of impressive components all in one vessel.

It had dual propulsion systems, a fixed longitudinal center of gravity, separate main and auxiliary ballast systems, a hydrodynamically advanced shape, and a modern weapon system. It's reported that the Holland VI was decommissioned on November 21, 1910, and marked an important breakthrough for the US Navy.

Senator Thomas J. Dodd introduced a bill to the US Senate in 1969 that would make April 11 National Submarine Day. President Richard Nixon was in office at that time and there were no records of his proclamation. It might have passed the Senate and introduced it to the house in 1970, but the exact date is unclear. All the same, the US Navy and other organizations celebrated the day that commemorated the Holland VI and the contributions to modern warfare it made.

The U.S. Navy's Submarine-Launched Aerial Drone Capacity Is Set To Greatly Expand

BY THOMAS NEWDICK MARCH 10, 2021

From: The WarZone

https://www.thedrive.com/the-war-zone/39700/the-u-s-navys-submarine-launched-aerial-drone-capacity-is-set-to-greatly-expand



AeroVironment

The Blackwing drones, which can be fired from countermeasures launchers, will carry surveillance payloads, and possibly more in the future.

The AeroVironment <u>Blackwing drone</u> is about to be procured in significant numbers by the U.S. Navy, providing its submarines with an organic unmanned aerial vehicle (UAV) capability that can be launched from below the waves. It's the latest development in a field in which the Navy has been conducting test work for some time now, as you can read about in this <u>past *War Zone* piece</u>. In the meantime, it's likely that the Navy has other similar capabilities already fielded, and perhaps even some examples of older Blackwings.

A request for proposal (RFP) <u>today</u> on the U.S. government's contracting website beta.SAM.gov, revealed that the Naval Sea Systems Command (NAVSEA) plans to buy up to 120 Blackwing 10C UAVs from the California-based company. Although the Blackwing is derived from the <u>Switchblade loitering munition</u>, or "suicide drone," but the latest RFP, however, mentions only unarmed drones.



General Dynamics Electric Boat/Matt Hildreth

The *Virginia* class attack submarine Pre-Commissioning Unit (PCU) *Indiana* during trials in the Atlantic Ocean. All Navy submarines, including the *Virginia* class, have a three-inch countermeasures launcher that can be utilized for the Blackhawk UAV.

The roughly four-pound Blackwing has an inertial/GPS autopilot system and a secure digital data link to maintain communications with the submarine. In order to fit inside a canister, the UAV has two pop-out wing sets with a span of 27 inches, and it's powered by an electric motor-driven pusher propeller. The drone can be launched from both submerged submarines and from unmanned underwater vehicles (UUVs) and, while the RFP notice doesn't specifically mention what they will be launched from, in the past Blackwings have been fired from submarines' three-inch <u>countermeasures</u> tubes during demonstrations.

The Blackwing 10C variants will be equipped with miniaturized both electro-optical and infrared sensors in its nose and will be procured as part of the Submarine-Launched Unmanned Aerial System (SLUAS) program. It is unclear how the 10C version differs from previous Blackwings, but it has at least something in common with the same company's <u>Switchblade 10C</u> that features an upgraded digital data link and allows concurrent operation of multiple drone systems in the same area.

The notice confirms that, as of today, the Blackwing 10C has been approved for integration in the SLUAS program under a Tactical Temporary Installations (TEMPALT) effort. Actual drones could be delivered from August this year, according to the Navy, with related contracts scheduled to run for a two-year period beginning May 2021.

"AeroVironment is the only known responsible source that possesses the facilities, tooling, equipment, manufacturing expertise, and technical expertise to provide the required Blackwing 10C UAVs within the government's required delivery and ordering period," the RFP stated.



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Weaponized version (inert demonstration) as a close-in and littoral self-defense option

Teamed with USAF, SOCOM & PACOM

NAVSEA

Back in 2013, the Navy announced it <u>had successfully demonstrated</u> the ability to launch an encapsulated unmanned aircraft via a submarine's torpedo tube and that it had been actively testing the Blackwing from standard countermeasures launchers.

A 2013 Naval Sea Systems Command briefing slide describing testing using the submarine-launched Blackwing drone, including potential attack missions.

According to the service, the new drones "will be used on various Navy submarine platforms during the SLUAS Middle Tier Acquisition program execution," although there was no further detail provided about how they will be used. However, "Middle Tier" suggests there are multiple layers of SLUAS development, likely involving different UAVs and capabilities. This ties in with a statement <u>last November</u>, Rear Admiral Dave Goggins, the Navy's Program Executive Officer for Submarines, who said that 21 SLUASs had been employed in demonstrations, though it's not clear how many individual types the Navy has actually experimented with.

NAVSEA <u>first posted a contracting notice</u> for the SLUAS program online last October. At that point, it was only seeking proposals for potential SLUAS designs and didn't yet have firm plans to buy any such drones.

"The Navy requires the capability of a SLUAS with a 3-inch diameter form-factor to provide enhanced sensor, communication, and cyber-security capabilities," last year's contracting notice read. "The integrated



system should be capable of launch from the US submarine fleet's 3-inch Signal System Ejector (SSE) equipment."

"Threshold performance of the air vehicle should include electro-optic capability with reliable target solution analysis," it continued. "The vehicle should remain airborne for at least one hour, operate at ranges out to the line-of-sight radio horizon, and use a variable bandwidth encrypted datalink with at least 256-bit encryption strength."

In the past, *The War Zone* <u>has examined</u> how small-size submarine-launched drones could be used in combat, including providing a discreet surveillance asset that could be hard for an enemy to detect, let alone the submarine from which it was launched. This kind of beyond-line-of-sight intelligence-gathering capability could be used by the submarine to help target surface vessels, for example, before launching a torpedo.

"Consider a submarine-deployed unmanned aircraft as a flying periscope able to dramatically extend our submarines' organic sensor range, provide target-quality sensor data back to the submarine, or to a joint force capability, and enable <u>Harpoon</u> and <u>Maritime Strike Tomahawk</u> missile engagements," Navy Rear Admiral Blake Converse, Commander, Submarine Force, U.S. Pacific Fleet, said in an online presentation <u>last year</u>.

Beyond the "flying periscope" capability offered by a sensor-equipped drone like the Blackwing, there's also very real potential for submarine-launched drones to operate together as <u>a swarm</u>. Not only could such tactics cover a much wider area in a surveillance capacity, but they could potentially also undertake a range of other missions, too, acting as decoys, carrying payloads including <u>electronic warfare jammers</u> and <u>even potentially small munitions</u>. An armed UAV launched from a submarine in this way could also be used to defend against close-in threats, such as small boats, and this littoral self-defense option is something the Navy has previous considered in relation to Blackwing.

Operating more than one drone simultaneously also offers the possibility of extending line-of-sight connectivity as communications relays, not only between the submarine and Blackwing but also as a gateway for UUVs, in what the company describes as "mother-daughter" operations.

In addition, communications relay could be especially important during special operations missions, for which submarines are increasingly prepared. It is easy to imagine how a UAV, or fleet of drones, could work in support of submarines such as the quartet of converted *Ohio* class <u>nuclear-powered guided-missile submarines</u>, or SSGNs, each of which can deliver dozens of <u>special operations frogmen</u> into contested territory. In such a scenario, the drones could scout ahead of the troops, providing (armed) overwatch and monitoring the unfolding operation while maintaining a link between the operatives and the submarine.

Eye on Innovation: Norfolk Naval Shipyard Uses Innovative "HAMSTER" Tool on Virginia Class Submarines

By Kristi Britt, Public Affairs Specialist / Published April 13, 2021 NORFOLK NAVAL SHIPYARD, Portsmouth, Va.,



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https://www.navsea.navy.mil/Media/News/SavedNewsModule/Article/2570240/eye-on-innovation-norfolk-naval-shipyard-usesinnovative-hamster-tool-on-virgin/

Norfolk Naval Shipyard (NNSY) recently teamed with Naval Surface Warfare Center Philadelphia Division (NSWCPD) to bring an advanced prototype to America's Shipyard with the intent of testing the bond between a coating and hull of Virginia-Class (VACL) Submarines.

The prototype, known as the Hammer Activated Measurement System for Testing and Evaluating Rubber, or HAMSTER for short, was jointly produced by NSWCPD and a contractor to provide a more efficient and accurate reading to determine the bonding condition of the hull of the vessel.

"In the past, shipyard workers would utilize a variety of methods to identify the Special Hull Treatment (SHT) on the vessels; however, these methods were all subjective and opened themselves up to errors in their readings due to the user relying on vibrations or hearing an audible response to determine the quality of the bond," said NSWCPD Materials Engineer Lisa Weiser, who along with NSWCPD Mechanical Engineer James McDonnell is leading in the prototype's development and distribution. "The HAMSTER will quickly and objectively identify debonded SHT on Virginia-Class Submarines, using an impact hammer to determine the bonding condition of the hull."

The HAMSTER is a portable, battery-powered hammer that uses a unique algorithm to provide a real-time evaluation of the condition of the bond with each impact of the hammerhead. Once the worker lightly taps the area with the hammer, lights on the hammerhead will provide a "go, no-go" response, lighting up solid blue to say if the impacted area is good to go or solid red if the area in question is not.

"The HAMSTER has had validation testing performed on in-service submarines with 100 percent accuracy," said Weiser. "With this, our shipyards are able to accurately identify the SHT and completely repair or replace whatever requires it during maintenance availabilities, ensuring the system is fully operational prior to deployment."

Following its production, when NSWCPD extended an invitation to the four public shipyards to utilize the

prototype, NNSY stepped to the plate in the hopes of performing a full hull inspection on vessels in dry dock.

"There is no reliable technique or tool available to shipyards for identifying SHT debonds," said NNSY Technology and Innovation (T&I) Lab Representative Dixie Cox. "Current methods utilized are cumbersome or operator dependent. As of now, VACL SHT inspections are primarily visual and various tools are used to tap test the suspected areas to try and determine the extent of debond. This method is very subjective and can lead to excessive work either removing good material or leaving behind debonded SHT without visual indications of failure. NSWCPD has developed an electronic device that will effectively determine debonding on VACL submarines. NNSY can use pierside during upkeeps on USS New Hampshire (SSN 778) and USS New Mexico (SSN 779)."

The mechanics were able to utilize the HAMSTER, training with the prototype and then putting it to use on a submarine.

"For previous jobs we would use a rubber mallet to try and locate spots on the hull that have debonded. We would rely on sound or vibration to locate these areas and when on the project it can be difficult with everything else going on to get the accuracy you want on those readings," said Woodcrafter Shop (Shop 64) Woodcrafter Robert Penland. "With the HAMSTER, we've seen it provide more clarity and accuracy regarding what are the exact spots of debonding firsthand. Once you have a feel for the prototype, it's easy to use and all-around a great addition to the arsenal."

The NNSY T&I Lab is excited to bring new technologies to the waterfront, providing the tools needed for the shipyard employees to work more efficiently and safely. "We look forward to assisting in getting test data from HAMSTER users to help further the development of the project," said Cox. "We'll continue to work to bring technology and innovations to America's Shipyard that help our employees succeed."

