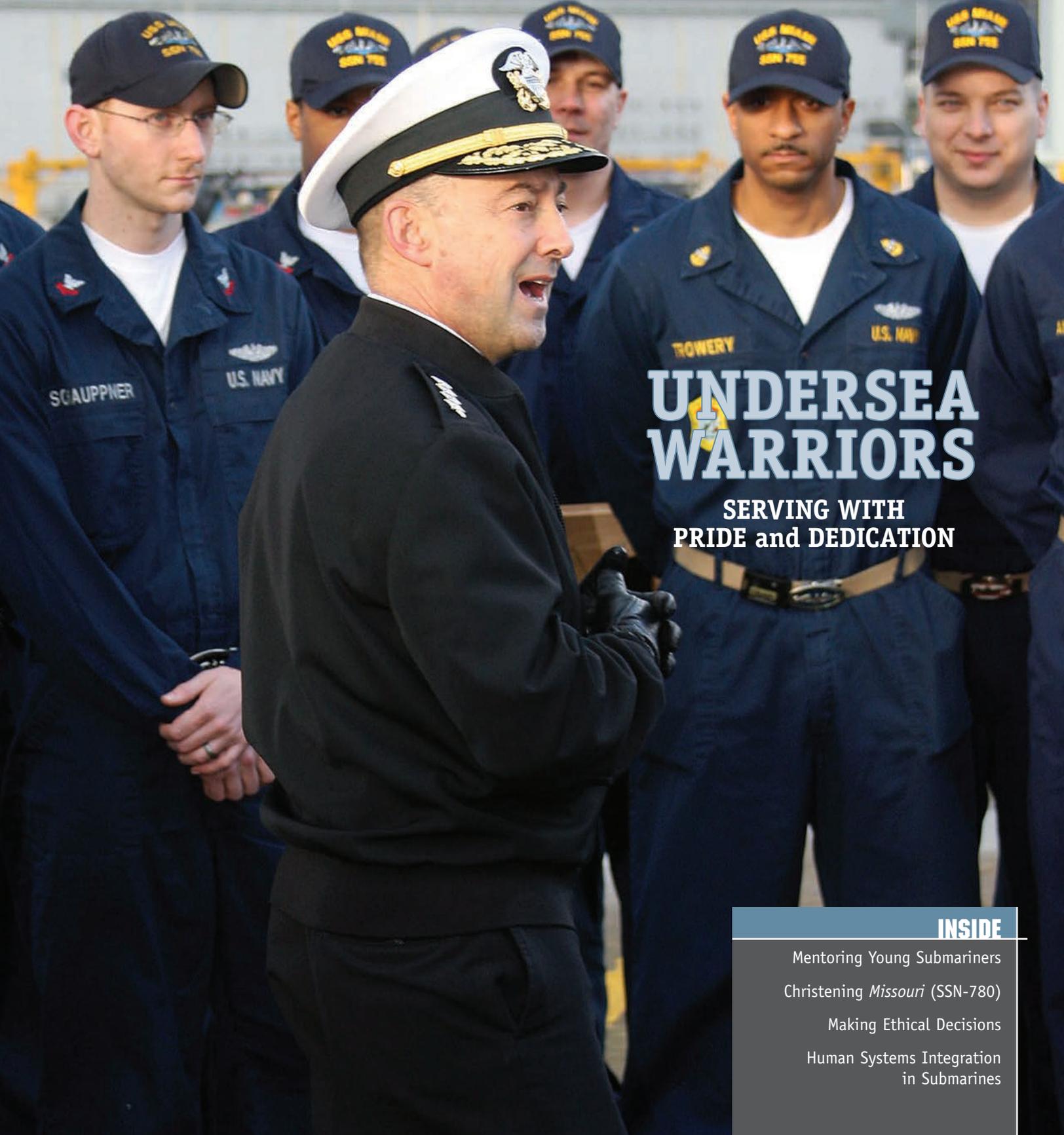


# UNDERSEAWARFARE

U. S. S U B M A R I N E S . . . B E C A U S E S T E A L T H M A T T E R S



## UNDERSEA WARRIORS

SERVING WITH PRIDE and DEDICATION

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Human Systems Integration  
in Submarines



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# UNDERSEAWARFARE

THE OFFICIAL MAGAZINE OF THE U.S. SUBMARINE FORCE

# UNDERSEA WARRIORS

SERVING WITH PRIDE and DEDICATION

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## On The Cover



Adm. James G. Stavridis, Commander, U.S. European Command, meets with the crew of USS *Miami* (SSN-755), in port at Her Majesty's Naval Base Clyde, Nov. 17, 2009. The nuclear-powered submarine was in port for a scheduled visit on its way home after an eight-month, routine deployment.

Photo by Chief Petty Officer Jason Lyell



“Although we pride ourselves on the mission versatility and capability of our submarines, the truly impressive strength of our submarine force resides in the resiliency of our Sailors. ”

VADM Jay Donnelly, USN, Commander, Submarine Force

This April marks the 110th anniversary of the submarine force. Today, we enjoy a rich legacy of submarining that has spanned the globe and continues to carry out six of the core capabilities of our national maritime strategy: forward presence, deterrence, sea control, power projection, and maritime security.

USS *Los Angeles* (SSN-688) played a vital role in the sustained contributions to national defense by the submarine force. In January, *Los Angeles* was decommissioned after 33 years of service. During her remarkable life she completed 18 deployments, earned eight Meritorious Unit Commendations, a Navy Unit Commendation, and the Marjorie Sterrett Battleship Award given to the Pacific Fleet’s top warship. Having outlived, outrun, and outlasted her competitors, *Los Angeles* set the mark for submarine design, construction excellence, maintenance, and operations that will surely remain for decades to come.

In March, the Navy commissioned the newest submarine into the fleet, USS *New Mexico* (SSN-779). Thanks to the unique partnership of the shipbuilding industry, the two shipyards of Northrop Grumman Newport News and Electric Boat, and the diligent work of the precommissioning crew, *New Mexico* was delivered four months ahead of schedule. *Los Angeles* set high standards. *New Mexico* and her sister ships are poised to reach those same great heights.

Although we pride ourselves on the mission versatility and capability of our submarines, the truly impressive strength of our submarine force resides in the resiliency of our Sailors. In this issue, UNDERSEA WARFARE Magazine focuses on the outstanding performance of our submarine force in increasingly challenging conditions. One of these articles features Force Master Chief David Lynch, who offers endur-

ing wisdom from the Chief’s Quarters on mentoring and developing the next generation of submarine Sailors. Master Chief Lynch shares his insight from 23 years of submarine service about seven principles of good leadership that have been gleaned from successful submarine crews throughout the fleet.

Leading our Sailors with effectiveness results in great achievements such as the recent work of the crew of the USS *Miami* (SSN-755), who completed an eight-month deployment for European Command in December. Despite her high operational tempo, the crew remained highly motivated and excelled, as told in another article in this edition. When you read the article about *Miami* you will find that despite the long separation from family and friends, the crew reliably kept its focus on its mission. *Miami*’s accomplishments have been briefed to the Chief of Naval Operations and continue to generate excitement about her recent work.

Finally, I would like to congratulate Rear Adm. Cecil Haney for a highly successful tour as the Director of the Submarine Warfare Division on the CNO’s Staff. For the past two years he has been a tremendous steward of submarine programs and has been an essential advocate for the missions of the submarine force to our nation’s leadership. The CNO has recognized Rear Adm. Haney’s great vision for the Navy and has placed him as the Director of Warfare Integration for his next assignment. I also extend a hearty welcome to Rear Adm. Mike Connor as the new N87 and look forward to the opportunities and challenges ahead of us in the coming months.

Every day presents a new challenge and excitement for our submarine force. I ask that you keep the good ideas coming and continue to lead with the combined effort to make lasting contributions to our undersea warfighting enterprise.



“From the professionalism to persevere on extended deployments like USS *Miami* to the enthusiasm displayed when bringing USS *New Mexico* to life, the Sailors and their supporting families make us what we are today—the preeminent undersea force in the world.”



RADM Cecil Haney, USN, Director, Submarine Warfare

Greetings from our nation's capital! What an exciting year 2010 has been thus far, and even with multiple blizzards this past winter, the pace of action here has truly been remarkable. As we execute the Fiscal Year 2010 Defense Appropriations Act, we are engaging the Congress regarding the Fiscal Year 2011 President's Budget that was released along with the Quadrennial Defense Review (QDR) and the Fiscal Year 2011 30-Year Shipbuilding Plan. Each recognizes the continued value of the submarine force and the necessity for undersea dominance.

Similarly, the Nuclear Posture Review (NPR) and the new Strategic Arms Reduction Treaty (START) emphasize the importance of our SSBN force as a vital, strategic, national asset for deterrence. October will mark 50 years of strategic deterrent patrols by our submarine force, on the heels of last year's celebration of the 1000th *Ohio*-class SSBN deterrent patrol. We have begun necessary research into advanced stealth technologies that will ensure the most survivable leg of our nation's nuclear triad remains undetected through the 2080s (the expected lifetime of the *Ohio*-class replacement). The requirements process continues at full speed by the team of professionals here as this vital program moves toward its first major acquisition milestone. It is exciting to be at this point in the development of this essential capability.

Although in January we decommissioned one of our most successful attack submarines—USS *Los Angeles* (SSN-688)—after serving admirably for 33 years, we commissioned USS *New Mexico* (SSN-779) in March. *New Mexico* was delivered four months early and continues the trend for decreased production times. Given the success of the *Virginia*-class construction program, it is fantastic to see that the Fiscal Year 2011

President's Budget fully supports increasing the production of *Virginia*-class submarines to two per year. This increased production is vital to our nation's defense as the remaining 45 *Los Angeles*-class submarines reach the end of their service over the next two decades.

While we in D.C. continue to focus on providing the best undersea solutions to the fleet, this issue focuses on the people of the submarine force. From the professionalism to persevere on extended deployments like USS *Miami* (SSN-755) to the enthusiasm displayed when bringing *New Mexico* to life, the Sailors and their supporting families make us what we are today—the preeminent undersea force in the world. In his article, Force Master Chief David Lynch lays out the principles for mentoring the next generation of Submariners. Articles from the Naval Academy offer us a chance to reflect on the rigorous selection process of our submariners and the challenge of preparing Sailors to make rapid ethical decisions in stressful situations. Our historical article details a daughter's search to learn about the life of her father, a World War II submariner. Those of us in service today strive to leave as rich a legacy for future generations.

For the N87 staff, I wish farewell to Capt. Brian Howes, Cmdr. Todd Weeks, Cmdr. Mike Granger, Lt. Cmdr. Stan Freemyers, Lt. Cmdr. Brett Levander, Lt. Dave Fernandes, Lt. Joe Petrucelli and Petty Officer 1st Class Martin Irlanda and welcome aboard Cmdr. Mike Kostiuk, Cmdr. Bob Greeson, and Lt. Brian Richards. This is the last issue of UNDERSEA WARFARE Magazine I have the opportunity to sponsor prior to transferring from N87 to become the Director, Naval Warfare Integration Group (N00X). I thank all of you for your tremendous service and support. Keep charging!

*Cecil D. Haney*

**Vice Adm. John J. Donnelly**

Commander, Submarine Force  
Commander, Submarine Force, Atlantic

**Rear Adm. Douglas McAneny**

Deputy Commander, Submarine Force  
Commander, Submarine Force, U.S. Pacific Fleet

**Rear Adm. Cecil D. Haney**

Director, Submarine Warfare

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**UNDERSEA WARFARE** is the professional magazine of the undersea warfare community. Its purpose is to educate its readers on undersea warfare missions and programs, with a particular focus on U.S. submarines. This journal will also draw upon the Submarine Force's rich historical legacy to instill a sense of pride and professionalism among community members and to enhance reader awareness of the increasing relevance of undersea warfare for our nation's defense.

The opinions and assertions herein are the personal views of the authors and do not necessarily reflect the official views of the U.S. Government, the Department of Defense, or the Department of the Navy.

**Contributions and Feedback Welcome**

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Annual cost: \$25 U.S.; \$35 Foreign

**Authorization**

**UNDERSEA WARFARE** (ISSN 1554-0146) is published quarterly from appropriated funds by authority of the Chief of Naval Operations in accordance with NPPR P-35. The Secretary of the Navy has determined that this publication is necessary in the transaction of business required by law of the Department of the Navy. Use of funds for printing this publication has been approved by the Navy Publications and Printing Policy Committee. Reproductions are encouraged with proper citation. Controlled circulation.



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*In keeping with UNDERSEA WARFARE Magazine's charter as the Official Magazine of the U.S. Submarine Force, we welcome letters to the editor, questions relating to articles that have appeared in previous issues, and insights and "lessons learned" from the fleet.*

*UNDERSEA WARFARE Magazine reserves the right to edit submissions for length, clarity, and accuracy. All submissions become the property of UNDERSEA WARFARE Magazine and may be published in all media. Please include pertinent contact information with submissions.*

## dear EDITOR,

In the fall 2009 issue of UNDERSEA WARFARE, the name of the author of "Bridging the Gap to Readiness", on page 29, was incorrectly spelled.

He was, and is, Captain Kenneth A. Swan, USN, Commanding Officer, Submarine Learning Center, in Groton, Conn.

v/r

William Kenny  
Submarine Learning Center Public Affairs Office

Mr. Kenny,

*Thank you for contacting UNDERSEA WARFARE magazine and bringing this oversight to our attention. We greatly appreciated Capt. Swan's contribution to this magazine, and we regret not having credited him properly. Although we do our best to keep errors of this sort from occurring, some inevitably get past us, and when they do, we rely on alert readers to set the record straight.*

## from the EDITOR,

The editorial staff of UNDERSEA WARFARE is proud to be part of the U.S. submarine community, and we greatly appreciate every input from serving submariners, former submariners, family members, and the many civilian professionals who support the Submarine Force. We also welcome input from readers who may not be as directly involved with the Submarine Force.

Anyone who wishes to contribute to this publication is welcome to contact us. Whether you have a potential feature article or a just a brief item of interest that might be suitable for our downlink section, feel free to e-mail John Patrick, our managing editor, at [jjpatrick@alionscience.com](mailto:jjpatrick@alionscience.com), or give him a call at 202-756-3832.

If all you have is an idea for a contribution to UNDERSEA WARFARE and you are unsure how to go about putting it into publishable form, we will be happy to discuss it with you and provide editorial support.

We particularly value inputs from the deck plate and the wardroom. However, we know that interesting stories can come from many sources. So if you, or someone you know, has a draft or an idea for a piece that you think should be published in these pages, we look forward to hearing about it.

## sailorsFIRST



Photo by Petty Officer 3rd Class Danna Morris

Petty Officer 1st Class William H. Kern receives the traditional first kiss from his wife after returning to Naval Station Norfolk after a six-month deployment aboard the Los Angeles-class attack submarine USS *Montpelier* (SSN-765).



SHAPE Photo by Petty Officer 2nd Class Stefanie Antosh

## USS *Miami* (SSN-755) Warmly Welcomed

On the chilly morning of Dec. 2, 2009, parents and children bundled up and braved the cold air along the Thames River in Groton, Conn. Some shivered, but they didn't mind, because their loved ones—husbands, fathers, brothers—were coming home. The *Los Angeles*-class attack submarine USS *Miami* (SSN-755) was returned home from an eight-month routine deployment to the U.S. European Command (EUCOM) area of responsibility.

In the course of the deployment, which began April 2, crewmembers visited ports in Haakonsværn, Norway; Portsmouth, England; and Faslane, Scotland. On Nov. 17, during the last port call—at Her Majesty's Naval Base Clyde, in Faslane—EUCOM Commander Adm. James G. Stavridis visited *Miami* and congratulated her crew on the completion of a successful deployment.

As the submarine made its way to the pier at Submarine Base New London, some kids pointed and shouted, "There's Santa. Is he real?" A Sailor dressed as St. Nick stood with line handlers. Once the boat docked, he passed out candy canes to the kids, including seven-year-old Luke Regnet, who gave the traditional "First Hug" to his father, Electronics Technician Second Class Don Regnet.

Regnet's wife, Tamar, had a special holi-

day gift of her own to give her husband—a "honey do" list. "I'm just so glad that it's over," said Mrs. Regnet. "We've had three flat tires and all sorts of things breaking, so I have quite a big to-do list for him."

The sub's crewmembers were as glad as those ashore that *Miami* was home. "Holy cow! It feels good," said Cmdr. Dennis Boyer, her commanding officer, after docking in Groton and coming ashore to a huge hug from his wife. "It feels great to be back in New England, even in December."

The crew cannot discuss much of the work they performed during the deployment, but they admit that they had the opportunity to enjoy the places they visited. One thing that many Sailors did not expect was the feeling of familiarity and comfort they encountered while visiting Scotland and England. Although they were awestruck by all of the history they encountered in those two distinct parts of the United Kingdom, many felt close to home when interacting with local people and getting to know the culture.

"We could relate to a lot of the English and Scottish people because a lot of us share our heritage with them," said Machinist Mate Second Class Matt Close. "In America, our history only goes back to the 1700's, and it's pretty modern history as far

as anyone's concerned. You go back and see the castles, crown jewels, previous kings, old navy fleets, and historical figures such as William Wallace, and it's very interesting. I have Scottish heritage, so I got a lot of stuff with my clan's tartan while I was there. Going back and seeing the history that involves all of us before American history is very rewarding."

While in Scotland, one Sailor made the long port visit especially memorable by flying his wife out for a six-day leave period. "My wife and I thoroughly enjoyed Scotland," said Electronics Technician Second Class Patrick Lisenby. "While we stayed in downtown Glasgow we got to visit places such as Stirling Castle. Also, everyone in Scotland and England were very hospitable to all of us. Although, everyone there laughed at my Southern accent," he laughed. "They all kept calling me John Wayne."

According to some of the Sailors, Glasgow offered many forms of entertainment for visitors. Aside from the historic landmarks, there was a facility that featured an indoor ski slope, rock climbing, bowling, cinema, arcade, laser tag, and a shopping mall. Glasgow also offered more than 250 pubs, most of which featured live music during the weekends.



Photo by John Narewski



U.S. Navy photo

(Opposite) Commander, U.S. European Command, Adm. James G. Stavridis meets with the crew of USS *Miami* (SSN-755), in port at Her Majesty's Naval Base Clyde, outside Glasgow, Scotland. (Top) Petty Officer 1st Class Charles Simonds, assigned to the *Los Angeles*-class attack submarine USS *Miami* (SSN-755), shares a candy cane with his son while his wife looks on. (Bottom) A Sailor dressed as Santa Claus greets a child during USS *Miami*'s return to Naval Submarine Base New London.

Keeping in touch with the family back home was also made easier by the large number of free WiFi hotspots. Since 2005, the city center of Glasgow has been a popular spot for anyone with a wireless device. Sailors were able to use their laptops in virtually every restaurant. Using software such as Skype, they could call home and, with a webcam, could even talk face-to-face

with loved ones.

"When I left for deployment, my baby was already four months old," said Close, "and by the time I got home, she was over a year old. Skype enabled me to see my baby girl grow up and let me feel like I wasn't gone for too long."

Another stop for the Sailors aboard *Miami* was Portsmouth, on England's

south coast, which was already an important naval port when the English defeated the Spanish Armada in 1588. Her Majesty's Naval Base Portsmouth has the oldest dry dock still in use. It is also home to historic warships like HMS *Victory*, the massive wooden "ship-of-the-line" on whose deck the great naval hero Horatio Nelson was mortally wounded while leading the British fleet to victory in the 1805 Battle of Trafalgar.

Despite all the fun and potential distractions ashore and on the sub, the crew remained focused on their mission. "The crew was fantastic," said Boyer. "They were very well prepared by our squadron, staff and submarine school here. They all did very well in preparing the ship for deployment. It just went very smooth."

Submarines like *Miami* have the capability to be on scene but unseen. In many situations, only U.S. submarines can monitor potential adversaries and possible terrorists without their knowledge. The submarine's ability to persistently and clandestinely observe, from any ocean in the world, provides our national security decision-makers with a non-provocative option to monitor emerging threats to our nation.

Submarines like *Miami* bring stealth, agility, firepower, and endurance. They are multi-mission capable, providing intelligence, surveillance and reconnaissance and, if necessary, early strikes from close proximity. They can also deploy and support Special Forces, disrupt and destroy an adversary's operations at sea, and ensure undersea superiority.

*Miami* is the third U.S. Navy ship of that name. The first, a side-wheel, double-ended Civil War gunboat built at the Philadelphia Navy Yard and commissioned in 1862, was named for the Miami River in Ohio. The second, a World War II light cruiser built at the Cramp Shipbuilding Company in Philadelphia and commissioned in December 1943, bore the name of the rapidly growing city in southern Florida. Today's *Miami*, which also bears the city's name, was laid down Oct. 24, 1986, launched Nov. 12, 1988, and commissioned June 30, 1990.

Petty Officer 2nd Class Mark Moore is a writer and photographer with Submarine Group TWO.



Photo by Petty Officer 2nd Class Gretchen Albrecht

## MENTORING YOUNG SUBMARINERS IN THE 21<sup>ST</sup> CENTURY

Working in the Submarine Force is an incredible experience and has been my passion for over 23 years. I have had the opportunity to serve on six different submarines and also to serve as a Recruit Division Commander in boot camp and the command master chief at Naval Submarine School. This experience has exposed me to hundreds of different leadership styles and their results.

Throughout my time in the Submarine Force, leadership has made assumptions about the generation currently before them and attempted to adjust tactics to better motivate each new group of Sailors. What I find to be true is that there are certain leadership traits that, if leveraged effectively, will produce solid results every time, regardless of any generational gap that may exist.

The first and foremost trait of a leader is treating people with dignity and respect. I believe people will never reach their full potential if they are treated in a negative way. People often confuse this aspect of leadership with being too soft, when in reality the preserving of someone's dignity can be one of the most powerful motivators that I have ever seen.

Capt. Ken Swan, the commanding officer of Naval Submarine School, once told me, "We must maintain the moral high ground when dealing with dysfunctional Sailors going through disciplinary processes. Although these Sailors are difficult to deal

with, they deserve our full attention as their leaders to hold them fully accountable for their actions and then find a path for them to be successful in life."

Taking the time to hold individuals accountable appropriately not only preserves the dignity of the offending Sailor but also the Sailor who never gets in trouble. Caring about a person and their well-being is being able to be upfront and honest about their behavior and demanding change when it is appropriate. This approach is direct and blunt but produces behavior change in a positive direction.

The cost to the leader is personal time. In order to be effective, a leader has to spend a lot of time monitoring, researching and finding different ways to motivate the indi-

vidual. There is no substitute for this work. No assumptions that people may have about the current generation of Sailors can substitute for getting down and getting first-hand knowledge of each person. A lot can be gained from this process of discovery.

The chaplains of the Pacific Fleet Submarine Force, led by Cmdr. David Bynum, have produced a direct and upfront shipboard training program called "SEA POWER." The program is led and facilitated by the senior enlisted community, working with the Chaplain Corps. It addresses different characteristics of positive leadership that successful submarines utilize daily. Its goal is to assist waterfront leadership in identifying and utilizing positive leadership tactics within their own command. The foundation of this effort is the concept that dignity and respect should underlie all leadership techniques.

The "SEA POWER" program employs seven principles, with each one building on the previous ones. For years I have heard many of my peers in the senior enlisted community condemn principles like these as too "soft" — meaning too likely to lead to slack discipline and lack of accountability. A term I have often heard used to dismiss the whole approach is "kinder and gentler."

This could not be further from the truth. Individuals can be disciplined and held accountable without being treated with an abusive or dismissive attitude. Successful submarine crews with good morale and



Photo by Senior Chief Petty Officer Nicholas Davies

(Opposite) Petty Officer 1st Class Gery Poppleton, center, trains Petty Officer 2nd Class Dan Firestone, left, and Petty Officer 3rd Class Anthony Roman on how to properly maintain a torpedo control cable. (Left) Sailors assigned to the guided-missile submarine USS Florida (SSGN-728) practice skills controlling the submarine in the Ship Control Team Trainer at the Trident Training Facility in Kings Bay, Ga.

retention employ the seven principles daily, with improved quality of life for the entire command.

The seven principles of good leadership are:

**No. 1: Good leaders treat people with dignity and respect.**

Respect is an attitude. To help develop that attitude, the SEA POWER program shows leaders what doesn't work, giving them examples of poor command climates and adverse leadership tactics. Discussing lessons learned from these situations helps participants understand why respect for the dignity of others is not just an ideal, but also a practical leadership tool.

**No. 2: Good leaders affirm the value of every person.**

All people want to feel they are making a difference, that what they are doing contributes to the mission. Ignoring people or failing to respond to their concerns devalues them and strikes at the most fundamental level of human dignity.

**No. 3: Good leaders take a personal interest in their Sailors.**

Good leaders know their Sailors. It is much easier to lead someone you know at a personal level. This does not mean the leader breaks down the professional boundary that exists between supervisor and subordinate. It means that the leader takes the time to observe and get involved in the subordinate's life.

**No. 4: Good leaders lead with a calm**

**mental attitude.**

Many situations are stressful enough in themselves; adding stress does not help. It is important to realize that stressful situations can be managed best by calm, confident leadership.

**No. 5: Good leaders find creative ways to motivate.**

We don't serve in a Navy with expendable Sailors. Saving even one Sailor makes a difference in day-to-day operations, especially in the Submarine Force. Leaders must take the extra time to seek out inventive ways to keep people motivated and fresh.

**No. 6: Good leaders accomplish the mission in spite of poor performers.**

Not all of the people that we have coming into the Navy today are exactly how we would like them to be. The good news is that they never have been exactly what we would have liked. Great leaders throughout history have taken the cards dealt to them and molded incredible teams utilizing the knowledge gained from principle #3, getting to know their subordinates.

**No. 7: Good leaders improve the process.**

Just because things are the way they have always been does not make it right. Knowing the standard and enforcing the standard is the key to maintaining and improving human performance.

I have seen all seven principles at work in every successful command I have observed. I have also seen the problems that can appear where these principles are not evi-

dent. Sometimes, leaders ignore them because of the old idea that the best way to train subordinates is to take away their dignity, reduce them to zero and start with a clean slate.

This old approach never worked very well in submarines, which require an incredible amount of teamwork and cooperation between subordinates and superiors. Submariners don't just follow orders, they follow them intelligently, helping their leaders understand and deal with very complex situations. This requires respect all around. Breaking down subordinates to zero and building them up again also wastes a lot of time, which is a leader's most valuable resource. Why go to all that trouble when it is so much quicker and better to build on the 50 percent the subordinates already have?

Time is the essential resource that makes all seven elements of effective leadership work. It is the most valuable thing we can invest in another human being. There is no way to get around it. Leaders need to spend as much time as they can mentoring their subordinates, and spend it wisely.

Time invested in subordinates pays dividends. Take the example of a Sailor who is overweight and does not meet physical fitness standards. A small investment of time would be to write a counseling sheet and direct the Sailor to do increased levels of physical activity. However, you may get a better result by taking the time to get the Sailor an appointment with a nutritionist and to personally work out with the Sailor. Taking an active role in the process makes a difference in achieving a lasting positive outcome.

This is not babysitting, or softness, or "kinder and gentler." It is simply caring about your people and ensuring that they have every chance for success. It is the spirit of the Submarine Force that never quits.

Master Chief David Lynch is force master chief, Submarine Force, U.S. Pacific Fleet.

# The Best Fit

## Selecting Future Submariners at the Naval Academy

**The** Naval Academy has completed its service assignment process for the Class of 2010, culminating with the accession of 127 submarine officers into the Naval Nuclear Propulsion Program (NNPP). Recent press reports have suggested that insufficient numbers of both Naval Academy and ROTC Midshipmen initially indicated submarines as their first choice and that the Navy's leaders had initiated a "draft." What these reports failed to acknowledge was that the fight for talent among our Navy communities is always fierce, with many officers and influencers providing mentoring and sea stories about the excitement of flying airplanes off a flight deck or launching tomahawks from under the sea.

This year was no different. So how did we achieve our mission to meet the Chief of Naval Personnel (CNP)'s accession goals for 2010? We did it with hard work, sharing the story of our nuclear submarine Navy with one midshipman at a time. This article is a discussion of that hard work and how the Naval Academy selected 127 midshipmen who are ready to lead and serve in our nuclear submarine Navy when they receive their commissions this May.

The Naval Academy's professional devel-

opment program begins educating midshipmen on career opportunities during their first summer in Annapolis. Some of our midshipmen have aspired to join certain communities since they were small children. Others are not familiar with the Navy and Marine Corps team outside of a few films they may have seen. Regardless of aspiration, midshipmen arrive at the Naval Academy with a willingness to serve and no guarantee about their community assignment.

By attending the Naval Academy, they

have volunteered to earn a diploma and commission and to serve as leaders in the Navy and Marine Corps. Throughout their four years in Annapolis, we work to provide each midshipman with exposure to every community available. Resources and programs include junior officer mentors, summer training cruises with the Fleet, returning alumni, and other midshipmen who have served as enlisted Sailors before arriving in Annapolis.

At the beginning of their senior year,



U.S. Naval Academy photo

All midshipmen considered for submarines must have academic and performance records that forecast a high likelihood of success in submarines.

midshipmen submit their final preferences. Not surprisingly, some of the most requested communities are naval aviation (pilot), the Marine Corps, and special warfare, where demand has recently exceeded or at least equaled available billets. I believe part of the reason for the popularity of these communities is awareness. Aviation, the Marines and the SEALs all have a very public face.

Because of the secret nature of Submarine Force work, many midshipmen do not fully understand the opportunities a submarine career offers. To overcome this barrier, the submarine community needs to send its most inspirational junior officers and senior enlisted to Annapolis, even if it is only for an afternoon.

As the process continues, the Academy evaluates each midshipman's preferences along with his or her academic and professional performance, physical qualifications and aptitude, and the CNP's accession goals. This year, the Academy formed a Service Assignment Review Board (SARB), with senior post-command, warfare-qualified officers from four communities—surface warfare, naval aviation, submarines, and the Marines. The SARB conducted personal interviews with over 100 midshipmen to help mesh their talents, their aspirations and the needs of the service. It also reviewed academic and performance records, leadership responsibilities, and par-

ticipation in extra-curricular activities to carefully select the best midshipmen for assignment in submarines.

All midshipmen considered for submarines must have academic and performance records that forecast a high likelihood of success in submarines, as well as a positive attitude about assignment to submarines, before they are sent for interviews at Naval Reactors. After technical interviews at Naval Reactors, each midshipman interviews with the Director, who questions them to determine, among other things, their attitude about serving in the Submarine Force. The Director selects only those who demonstrate a positive attitude about the assignment and a willingness to give it their best.

At the Naval Academy, service community leaders and midshipmen both responded positively to the SARB process. The following comments are from two Naval Academy midshipmen first class (seniors), Ryan Rager and Scott Carper, who were part of this process for the Class of 2010.

Midshipman Rager changed his first-choice service preference from naval aviation to submarines following a briefing by the Commandant of Midshipmen asking for additional volunteers to fill the needed numbers for submarine accessions. Midshipman Carper also listed naval aviation as his first choice preference and was interviewed by the SARB. After review-

ing his academic and professional records, service preference (submarines was number two), and level of maturity (especially relating to service over self), the SARB decided that he would make an ideal candidate to interview for a submarine billet. The Director, Naval Reactors, ultimately accepted both midshipmen for the Naval Nuclear Propulsion Program and assignment in submarines.

*Midshipman Rager:* "As a first class midshipman, I am well aware of all the rumors that surround the service assignment process at the Naval Academy. Throughout the service assignment process I was never forced to make any decisions. I was given every opportunity to think about the consequences, both good and bad, of my decisions. I will say that after countless hours of reflection I have yet to find a bad consequence for my decision to volunteer for submarine service.

"After witnessing the previous three years of service selection, I was a bit unsure about the submarine selection process. Rumors about the 'draft' always cycle through the Brigade [of Midshipmen] and I was also a bit unsure of the process. However, once involved I was confronted with nothing but respect and honesty. Whenever I had questions or concerns, the submarine officers on the Yard were more than willing to take time out of their days to sit down and talk with me. When the Commandant held a



U.S. Naval Academy photo

By attending the Naval Academy, midshipmen have volunteered to serve as leaders in the Navy and Marine Corps. Throughout their four years at Annapolis, the Academy seeks to give each midshipman exposure to every available naval community.

meeting with the qualified members of my class expressing the Navy's needs for submarine officers, I immediately considered volunteering—not because I did not want to be a pilot, but because at that moment I remembered why I came to the Naval Academy. It was not to be a pilot; rather it was to serve my country in whatever capacity it needs.

“Following the meeting, I spoke with both of my roommates (who had already been selected for the nuclear program) to see what they had experienced during summer training and their interaction with submarine officers on the Yard; they had nothing but good things to say. The next day, I spoke with the Academy's nuclear programs accessions officer about the career opportunities within the submarine community. I asked him if it would be possible for me to digest the conversation I had with him and talk it over with my family over the weekend ... and the following Monday, I volunteered to go to the Nuclear [Reactors] interview. I will say that the interactions I had with the submarine officers at the Naval Academy solidified

my decision to volunteer for submarines.”

*Midshipman Carper:* “I feel that the service assignment process this year was handled better than it has been in any of the other years I have been here. Every fall, first class midshipmen are asked to input their service assignment preferences with little to no knowledge of exactly how each community will select its newest members. This year, the start of the process was no different, and my classmates and I submitted our preferences without knowing how we would be evaluated or what we would end up selecting. Obviously, it is impossible for every midshipman to get his or her first choice. All of us knew this, but most still had very high hopes and expectations.

“A few weeks after we entered our preferences, rumors started to circulate about the ‘Sub Draft.’ This was not a new phenomenon at the Naval Academy as the submarine community has not drawn enough interest from qualified midshipmen for the past few years. Naturally, the midshipman rumor mill ran away with outrageous stories such as decorated prior Marines being forced to

go submarines against their will. However, what separated this year from the past years was the amount of effort put into making the service assignment process more transparent.

“Eligible candidates, many of whom had expressed interest in the submarine community in their time at the Academy, were called to a briefing where the situation was explained. The Naval Academy needed to supply 125 ensigns to the submarine community. After the first iteration of the service assignment process, there were about 95, leaving the community in need of 30 more midshipmen. The Commandant asked the group of about 100 of us for volunteers, with the mutual understanding that if not enough people volunteered, the remaining spots would be assigned to eligible midshipmen.

“Several people volunteered at this point in the process, but not enough to fill the Academy's quota. Here is where the process began to differ from years past. A Service Assignment Review Board was created that consisted of the highest



The Academy evaluates the career preferences of midshipmen along with their academic and professional performance, their physical qualifications and aptitude, and Chief of Naval Personnel accession goals.

ranking officers on the Yard from each of the four major communities: Marines, naval aviation, surface warfare, and submarines. Every midshipman eligible for submarines was called in one at a time and interviewed. This allowed the board to learn much more about each midshipman's personality and better evaluate in which community the midshipman would best fit and succeed. At the same time, it allowed the midshipmen to better understand the thought process behind each assignment and the effort put into placing every single midshipman in the right community.

"The Service Assignment Review Board made the final decisions and notified the midshipmen that were being sent up for an interview at Naval Reactors in Washington, D.C. After the review board made its decisions, every single selected midshipman interviewed with the Academy's nuclear programs accessions officer, [and] he explained the process even further and evaluated how each midshipman handled the news. Some were more disappointed than others, but the vast majority had already accepted the news and were excited about their new assignment.

"I went through the entire process. My first choice was naval aviation, but I had put submarines as second on my list of preferences. Upon hearing that I was selected, I

was a little disappointed that I did not get my first choice. However, I had told the board that service meant more than anything to me, and that I would happily serve in any community they saw fit.

"The more that I thought about it, the more excited I got about the opportunities in the submarine community. By the time I was scheduled to go up for my interview in D.C., I had realized that the submarine community was actually a better fit for my strengths and interests. I could not be more pleased with my current selection, and if I had to go back, I would put submarines as my first choice. My roommate, as well as many of the others who went through the process, feel exactly the same way."

Like Midshipman Carper, many other midshipmen who originally would have preferred to serve elsewhere came to see the submarine community as a good fit for them once they got more exposure to it.

The Naval Academy service assignment process is not perfect. We continue to adapt all of our professional programs in an effort to align the needs of the Navy and the aspirations of our midshipmen. Our challenge is to take the lessons of this year and improve our overall marketing of the submarine community. As we continue to educate the Brigade about the opportunities that a career in submarines offers, we will continue to meet our accession goals

with midshipmen who are excited to serve and are a good fit for the community, even if submarines was not their first choice.

Overall, this year's service assignment has been a success. Most midshipmen (75%) were assigned to their top choice, and almost all (90%) were assigned one of their top two choices. I am proud of our USNA Class of 2010 for putting service above self to meet CNP's accession goals. These young officers are selfless, inspirational, articulate, proficient, adaptable, innovative, professional, and ready to serve.

Cmdr. Jarrett is the 5th Battalion Officer at the U.S. Naval Academy and a former commanding officer of USS *Pittsburgh* (SSN-720).

# No Time for Hesitation

## Teaching Rapid Ethical Decision-Making with Interactive Simulations

### Imagine the following situation:

You are a young Navy lieutenant on your way to a major inspection that will determine whether your unit deploys on time. Your roommate, another lieutenant—whose father just died and who was out drinking all last night—has revealed that he is a recovering alcoholic. He asks you to cover for him to get through the inspection. You now have a decision to make. Do you remain loyal to a friend and fellow officer, backing him up when he claims to be sick? Do you keep quiet but let him take his chances? Or do you tell the commanding officer?

benefits and decreasing harm, and relying on a reasoned, rational process.

Character and leadership development form the cornerstone at the United States Naval Academy, and the Vice Adm. James B. Stockdale Center for Ethical Leadership at the Academy has embraced the new technology of interactive simulations as a way to teach ethical decision-making. Today's young officers and Sailors grew up playing video games, and Navy trainers and educators have found that they respond eagerly to this learning medium.

Command Master Chief Petty Officer Kurt Smith of Naval Submarine Training Center Pacific (NSTCP) described how the digital age has shaped young sailors in an interview published in the spring 2008 edition of UNDERSEA WARFARE Magazine. He pointed out that “the technical savvy of today’s recruits is quite impressive.... Nearly every Sailor has an iPod or DVD player in their bunk, and most are very computer savvy and can almost program the computers.”

The Stockdale Center has produced a DVD library of five simulations with a selection of moral dilemmas. The simulations show midshipmen, enlisted personnel and junior officers in situations that pose ethical dilemmas, and they demonstrate a systematic, logical process to help resolve these dilemmas. The realistic computer environment obliges participants to make hard choices and face the consequences of their decisions, but without

#### Ethical Decision-Making in the Fleet

Moral gray areas have to be navigated quickly and effectively in fast-moving combat situations. The stakes are often too high to let young officers and enlisted gain expertise through “on-the-job” training. As a leader, how do you enhance the decision-making abilities of your people so that they are better prepared to face ethical challeng-

es in conditions where leisurely reflection is seldom an option?

Ethical decision-making is a structured process in which a person can recognize an ethical or moral issue, decide the best action to take, and act on it. Although there are many different ways to go about making ethical decisions, a set of common concerns include moving beyond a narrow self-interest, identifying the right thing to do, increasing



Photo by Chief Petty Officer Josh Thompson

As a leader, how do you enhance the decision-making abilities of your people so they are prepared to face ethical challenges in conditions where leisurely reflection is seldom an option?

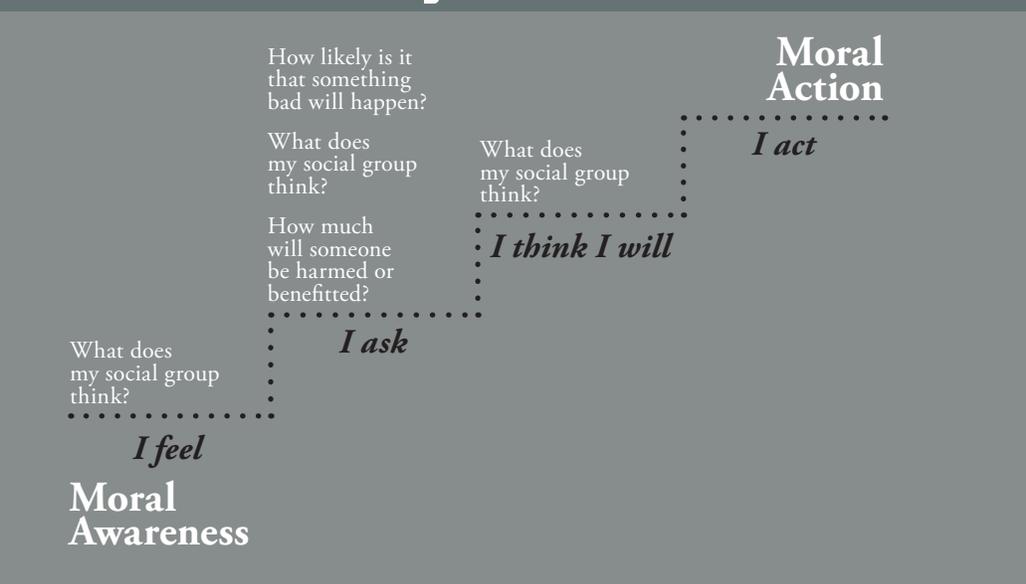
real risk to themselves or others. By allowing participants to grapple realistically with universal issues such as fairness, truth-telling and dealing with inappropriate behavior, the simulations provide actual experience in ethical decision-making. The experience helps prepare them emotionally as well as intellectually for dealing with real-life situations—not unlike the way realistic combat training helps prepare Sailors for dealing with the stress of battle.

How do these simulations work? Imagine that you are playing a character and immersed in a realistic world that you see on your computer screen. Your peers in this world look to you as a social leader. You're presented with a situation that you sense has moral and ethical dimensions. Maybe there's a party with underage girls present. Maybe you discover a possible sexual assault. Maybe your best friend is asking you to go along with a deception. Maybe your ambition places your future in jeopardy.

Whatever the situation, you're faced with a series of decisions. Because the simulation is interactive, every choice you make spins the narrative off in a different direction. Each has consequences and changes the situation. You experience how your decisions affect the outcome. The first time you grapple with the scenario's dilemmas, you do so instinctively, without guidance, hoping for a positive outcome.

A tutorial accompanying the simulation

## Ethical Decision-Making Model



then provides the guidance. Each of the simulations comes with a practical, step-by-step model that walks you through a decision-making process, going from moral awareness to moral action, i.e., from recognizing that a situation involves ethical issues to acting ethically.

After this tutorial, you have the opportunity to return to the scenario and experience it again, applying the steps in the tool to work your way through the dilemma.

### Starting with Sound Theory

The Stockdale Center started to explore the idea of using interactive multimedia simulations to help develop courageous, ethical leaders several years ago. In collaboration with the Canadian Defence Forces, the Center researched the work of the late James Rest, professor of educational psychology at the University of Minnesota, and Thomas Jones, professor of business management at the University of Washington. It then validated the research with populations of midshipmen and Navy

chaplains. The model on the previous page is the framework used in the interactive simulations.

Prof. Rest pioneered a four-component approach to decision-making that combines cognitive-development, social, behavioral, and psychoanalytic perspectives. He asserted that, when confronted with an ethical dilemma, individuals move from moral awareness, the recognition of a moral situation; to moral judgment, the evaluation of choices and outcomes; to moral intention, choosing how one intends to act; and lastly to moral action, the actual behavior in the situation. A failure at any step in the process could result in a failure to make an ethical decision.

In the first step, there is gut-level recognition that the situation is morally charged. It arouses moral emotions like anger, fear, shame, or empathy. The decision-maker's gut is answering the question: "Is there something wrong here?" Is a person, community, or ideal at risk? Is there a dimension of right and wrong here, or are competing values at work?

Assuming that the situation raises an ethical issue, then the next step is to weigh various rational options. The aim is to distinguish right from wrong and better from worse and identify competing obligations. The decision-maker is also weighing possible actions. He or she may ask questions such as:

- What action produces the most good and the least harm?
- What action respects everyone's rights and dignities?
- What action treats everyone equally—or if not equally, then at least proportionately and fairly?
- How would I want to be treated?
- What kind of person will I be if I act or do not act in this situation?

The next step is to decide what to do or not do. Deciding what to do also means marshaling the courage to act, often in the face of great opposition.

Sometimes, people can recognize an ethical dilemma, decide "the right thing to do," resolve to act, and yet not take action. If asked to explain a failure to act morally, they

will often refer to the power of other people involved—anything from peer pressure to the anticipated disapproval of a superior. However, moral action means carrying out the moral decision in spite of opposition or possible consequences.

This fairly straightforward process is somewhat complicated by factors that may increase the moral intensity of the situation. Prof. Jones noted that specific characteristics of a situation increase its moral intensity, affecting individuals' decision-making ability. He described six factors of moral intensity: magnitude of consequences, social consensus, probability of effect, temporal immediacy, proximity, and concentration of effect.

Research at the Stockdale Center found that four of the six moral intensity factors most strongly influenced decision-making—magnitude of consequences, social consensus, probability of effect, and proximity. Magnitude of consequences means how much an individual may be harmed by or benefit from the decision-maker's action. Social consensus means how much a social group agrees that an action is good or bad. This social group could be society as a whole (which, for instance, expects people to abide by the law) or a smaller group like an individual's colleagues. Probability of effect is the likelihood that the predicted outcomes and the expected level of harm or benefit will occur. Proximity refers to the nearness of the decision-maker to the individuals potentially affected by the consequences. Proximity can be a feeling of physical, cultural, social, or psychological nearness.

The Center has designed its simulations to emphasize those four factors.

### Creating a Realistic World

Finding a step-by-step process for decision-making is only half the story. To be effective, the simulations had to create worlds full of believable details and realistic situations that engaged participants. The Stockdale Center has worked in strategic partnership with Will Interactive, an award-winning producer of interactive educational technology, to combine ethical decision-making with a virtual experience in unique ways that draw participants into the worlds of the simulations.

### Teaching with Simulations

Lt. Mitch Eliason—a nuclear-trained



submariner who served in USS *Los Angeles* (SSN-688) and is now on shore duty as a leadership instructor at the Naval Academy—uses the Center's library of interactive simulations. Having delivered, as he says, "many training and education evolutions to Sailors and midshipmen," Lt. Eliason maintains that "the interactive simulations stand alone as the best way to grab the attention of the students and keep them engaged in the topic. Lessons of leadership and ethical decision-making are the most difficult to present effectively, and these simulations make it so easy."

He especially likes the simulation entitled "The Weekend," which focuses on ethical challenges arising from liberty. He noted that in a typical liberty briefing, a well-respected chief petty officer runs through the "do's" and "don'ts" for the new port, but it's hard to engage the crew, because all they perceive are endless restrictions. In contrast, the interactive simulations, "because they are so realistic and relevant, actually get everyone to think about the 'why' behind policies, so they buy in to what the command and Navy see as the appropriate conduct."

All five simulations in the Center's "Dilemmas" library have been used with more than 5,000 midshipmen at the Naval Academy. One simulation, *Last Call*, has been featured for the last four years in the Capstone Moral Leadership Seminars for first-class (senior) midshipmen. The



U.S. Naval Academy photo

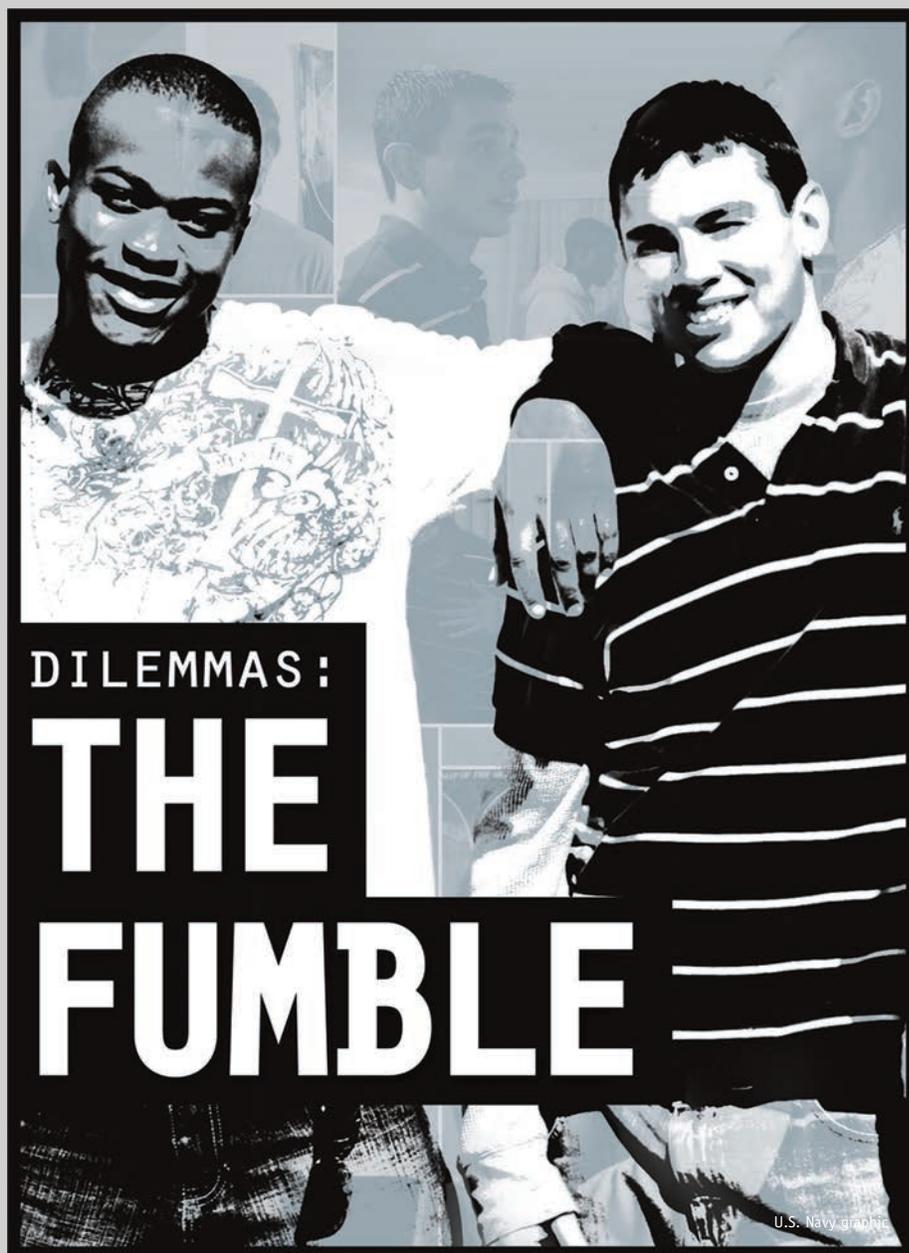
(Above) A traditional classroom setting may not be optimal for teaching ethical decision-making. Today's young officers and Sailors grew up playing video games, and Navy trainers and educators have found that they respond eagerly to interactive simulations. (Right) The James B. Stockdale Center's newest interactive simulation, *The Fumble*, focuses on college athletes.

simulations have been used for three years at the Naval Surface Warfare School in Newport, R.I. Several of the movies have been piloted at the U.S. Coast Guard Academy and in the NROTC programs at Jacksonville University and the University of San Diego.

### Leaping into the Future

The Stockdale Center continues to work with Naval Academy faculty to find ways to regularly expose fourth, third, and second-class midshipmen to its library of interactive simulations. The Center's newest production, "The Fumble," which focuses on college athletes, may be used at other undergraduate institutions as well. The Center is also committed to exploring applications across the fleet. Staff members have discovered that the more they consult with different groups, the more demand they find for ethical decision-making simulations tailored to specific populations.

An ethical leader must be prepared



U.S. Navy graphic

to take all the steps from moral awareness to moral action in any situation that arises — and to do it as quickly as necessary. This requires experience, which is the essential foundation for all effective leadership because it prepares the decision-maker emotionally as well as intellectually.

The best experience comes from the real world, but the price of gaining it can be high. Pragmatic decision-making models can reduce the risk involved in gaining real-world experience by introducing decision-makers to the ethical dilemmas they will face before they have to encounter them for real. Simulation can help build the moral "muscle memory" required to handle high-stress, morally ambiguous situations at all

levels of command, just as realistic combat training helps prepare Sailors of all ranks for the extraordinary demands of war.

Dr. Holmes, a clinical psychologist and retired Navy captain with 25 years of service, is director of assessment at the Naval Academy's Vice Adm. James B. Stockdale Center for Ethical Leadership.

On Dec. 5, Submarine Force Commander Vice Adm. Jay Donnelly presented a Navy and Marine Corps Achievement Medal to Submarine Group TWO Material Officer Lt. Christian Beisel for his leadership and involvement during the summer 2009 midshipmen cruises. As midshipmen coordinator and training officer for Submarine Group TWO from May through August 2009, Lt. Beisel dedicated significant personal time to mentoring and housing midshipmen during the summer cruises. He helped train 149 U.S. Naval Academy midshipmen, various Naval Reserve Officer Training Corps (NROTC) units, and two officers from the Uniformed Services University of the Health Sciences, totaling nearly 1,300 days of training across 24 cruises on 13 submarines. He also created a pre-cruise professional development tour that included visits to the Historic Ship *Nautilus* (SSN-571) and the Submarine Learning Center. The following is Lt. Beisel's own account of his work with the midshipmen cruises.

## NOT A MINUTE TO WASTE

# Organizing Groton-Area Midshipmen Cruises

When I was first asked to take on the job of Groton-area midshipmen coordinator as a collateral duty, I thought back to my own first class midshipmen cruise on USS *Bonhomme Richard* (LHD-6). I flew into San Diego, was picked up by the ship and spent five weeks on board, including about two weeks at sea. At the time, I had absolutely no idea of what it took to make the cruise a rewarding experience for each midshipman and to ensure that the community was well represented to the visiting soon-to-be naval officers. Now, it was my turn to make the arrangements, and I soon found out that they had become a bit more complicated since I was a midshipman.

After reading through the Submarine Force directives governing midshipmen operations and the proposed schedule for the summer midshipmen cruises, I realized that today's midshipmen would not have the same experience that I had. I had five weeks to shadow my running mate (the person assigned to help me understand my shipboard experience) and to experience a wide variety of situations encountered by a division officer. In contrast, today's midshipmen would have to make a judgment on whether or not to volunteer for submarine

service based on less than one week of exposure to the community.

In addition, I soon realized that operational schedule constraints on submarines left a relatively small amount of "ride time" available for midshipmen cruises. Concerned about the limited amount of time the midshipmen would actually spend aboard a submarine, I discussed the situation with the Submarine Force midshipmen coordinator, Lt. Scott Turner. We came to the conclusion that pushing for a short extension to the cruises prior to the underway portion could add value to the experience. The original schedule called for picking up the midshipmen from the airport and taking them directly to the boat the day before getting underway. Instead, we would have them fly in one or two days earlier for additional submarine-related experiences.

To help me brainstorm what these experiences should be, I recruited Ens. Justin Juskiewicz, who was temporarily assigned to Submarine Group TWO before heading to Nuclear Power School. His input was very helpful because he had been on the midshipman side of the process more recently than I had and therefore had a

fresher take on what would make the experience useful and enjoyable.

Adding value to midshipmen cruises originating in Groton turned out to be fairly easy with the many resources available in the "submarine capital of the world." One of the most valuable resources was the Submarine Force Museum and Historic Ship *Nautilus*. While NROTC programs and the Naval Academy teach naval history as part of their curriculum, the Submarine Force Museum presents the rich history of our community and its heroes in vivid detail that held the interest of some of the midshipmen for hours. As I once heard the commanding officer of an attack submarine say, "There is a long list of heroes in the Submarine Force, and when you join it, you are joining that legacy."

Another piece of the in-port training I wanted to include for the midshipmen was a visit to the Submarine School. I thought it was important to give the midshipmen a glimpse of this rigorous training environment to show the high standards applied both to future submariners before they head off to the fleet and to submarine crews brushing up on their submarining skills. The Submarine School's executive officer,

Cmdr. Thomas Kraemer, personally led the tour. Highlights that the midshipmen particularly enjoyed were the wet trainer, which simulates various flooding conditions to build the skills of damage control teams; the new dive tower, for learning and practicing submarine escape skills; and the “dive and drive” Ship Control Team Trainer.

Another highlight of the in-port experience was a luncheon with the commander of Submarine Group TWO, Rear Adm. Paul Bushong. Working with Lt. Matt Beach, the Admiral’s flag aide at the time, made the scheduling easy and enabled several groups of midshipmen to share in the experience. The luncheon not only gave the midshipmen the benefit of a flag-level perspective on the submarine community, it also provided a clear demonstration of how much the high-level leadership of the Navy and the Submarine Force values them as the leaders of the future. Judging from how much the midshipmen talked about lunch with Rear Adm. Bushong, it seemed to have made a strong impression.

The intelligence officer of Submarine Group TWO, Lt. Greg Page, contributed greatly to the in-port training with briefings on various submarine mission areas and orders of battle. Sitting in on the briefings for my own benefit, I was impressed by Lt. Page’s presentation style, which was vigorous and highly professional but at the same time relaxed. His energetic and friendly style prompted many questions from the midshipmen, and I was equally impressed by the quality of their questions.

I coordinated most of the additional in-port time with the midshipmen training officers (MTOs) on the submarines to ensure that the additional time with midshipmen attached would not unduly impact a boat’s in-port schedule. However, not every in-port portion of the cruises went smoothly. For example, having the midshipmen fly in a full two days before a submarine picked them up during a brief stop for personnel (BSP) required some last-minute improvising to make sure I never just left them to waste their time watching television at the Combined Bachelors’ Quarters. A cookout at my home gave me an unexpected and enjoyable opportunity to share my own submarine experiences over burgers and brats. Some of the midshipmen were surprised to see that a submarine officer could have a normal family



Vice Adm. Jay Donnelly presents the Navy and Marine Corps Achievement Medal to Lt. Beisel at Naval Submarine Base New London

and home life.

Some of the midshipmen assigned to submarine cruises were clearly not interested in volunteering for submarine service, and it was obviously a greater challenge to keep them interested in the experience. However, meeting that challenge was not a waste of effort. My goal was not so much to win over those particular midshipmen as to present the challenges and benefits that the submarine community offers. I believe that even those who do not choose to volunteer for submarine service can benefit from a better understanding of the submarine community, and that such understanding will facilitate future working relationships between submariners and other Navy communities.

One of the most enjoyable aspects of coordinating midshipmen cruises for the Groton area was developing relationships with the type commander and submarine squadron staffs, with the executive officers and MTOs of submarines, with NROTC and Naval Academy staff, and with my fellow midshipmen coordinators in other areas. I was proud to share my enthusiasm and belief in the midshipmen cruise process.

I think the additional in-port time better prepared the midshipmen for the underway portion of their cruises. Although my role in the 2009 Groton-area midshipmen cruises was small, I

hope it had some impact not only on the midshipmen that we hosted but on the process as a whole. Maximizing midshipmen training on submarine cruises is a challenging task due to the brief time available. An additional day or two, if well planned and effectively utilized, can provide a larger cross-section of exposure to the Submarine Force. Although the most valuable training for midshipmen is while underway, their impression of the Submarine Force begins when they arrive at the airport and ends when they are back at the airport waiting to depart.

In today’s environment, the availability of submarines and the time of our future officers are both at a premium, and the Submarine Force must therefore make every minute of the midshipmen cruises as useful and rewarding as possible. It was an honor and a pleasure to help achieve that goal.

Lt. Beisel is currently a student at the Naval War College in Newport, R.I.



Director, Naval Reactors, Adm. Kirkland H. Donald, Rep. Ike Skelton, (D-Mo.), Sen. Claire McCaskill (D-Mo.), Secretary of the Navy Ray Mabus, and Mrs. Rebecca W. Gates, *Missouri's* sponsor, stand together on the christening platform while the national anthem is played.

Photo by Petty Officer 1st Class Steven Myers

## Missouri (SSN-780) Receives a Hallowed Name

With the spray of bubbly from a champagne bottle, PCU *Missouri* (SSN-780), the newest member of the state-of-the-art *Virginia* class, was christened on the morning of Dec. 5, 2009 in a ceremony at General Dynamics Electric Boat in Groton, Conn.

*Missouri* is “a link in the honored chain of ships to bear the name; another chapter in the storied history of the Naval service,” said Secretary of the Navy (SECNAV) Ray Mabus. All five *Missouris* have honored the people of the “Show Me State.”

Amazingly, all five *Missouris* have represented the state of the art for warships in their time. The first *Missouri*, a steam frigate propelled by two paddlewheels, entered service in 1842 as the fastest and most powerful ocean-going warship in the U.S. fleet, and perhaps in the world. The second *Missouri* was one of the revolutionary Civil War ironclads—built by the Confederacy, but later captured and put in service for the Union. The third was one of the U.S. Navy’s earliest steel battleships. The fourth was a member of the World War II *Iowa*-class, the most advanced fast battleships ever built.

SECNAV and Secretary of Defense

Robert M. Gates were among the many dignitaries and guests who attended the christening of the fifth *Missouri*, a member of the *Virginia* class, the current state of the art for nuclear submarines.

“We gather for this christening with the knowledge that *Missouri’s* service builds upon a proud lineage of her namesake,” said Senator Claire McCaskill of Missouri, the principal speaker for the event. “We gather in the belief that her service to our country—silent as it may be—will keep Americans safe by deterring would-be aggressors. We also gather today to confidently set the tone for the character of this submarine, which will sail with one foot in her proud past, but with an eye toward the future and all the potential that it holds.”

Becky Gates, the ship’s sponsor and wife of the secretary of defense, broke the traditional champagne bottle against the boat’s sail. Her initials were welded into a plaque inside the boat during last year’s keel-laying ceremony.

“I am humbled that in some way, I will go wherever the submarine sails,” said Becky Gates. “As this, the latest *Missouri*, moves on to active duty, my thoughts will always be with the dedicated patriots who sail

aboard her, and the loved ones who wait for their safe return.”

The christening marks another milestone for the submarine, which is “now 90 percent complete with construction and is on track to finish \$72 million under budget and well ahead of scheduled,” according to Director, Naval Reactors, Adm. Kirkland H. Donald.

“This accomplishment is a testament of the leadership on this project. It’s a tribute to each individual tradesman and Sailor represented by this crew that did their job right the first time and kept the environment of success and ownership on track and ever stronger,” said Donald.

The last *Missouri*, the legendary battleship, saw action not only in World War II, but also in the Korean War and the Persian Gulf War. On its deck, Fleet Adm. Chester Nimitz, Gen. Douglas MacArthur and many other U.S. and Allied military leaders accepted the unconditional Japanese surrender that brought World War II to an end on Sept. 2, 1945.

“This new *Missouri* will continue the proud history of ships before her. We in Missouri are proud of this ship, we are proud of her crew, we are proud of the shipbuilders who constructed it,” said Congressman Ike Skelton of Missouri, chairman of the House Armed Services Committee.

The seventh *Virginia*-class submarine, *Missouri* will excel in anti-submarine warfare; anti-ship warfare; strike warfare; special operations; intelligence, surveillance, and



Photo by John Narewski

Rep. Joseph Courtney (D-Conn.) speaks at the ceremony.



Photo by Petty Officer 2nd Class Kevin S. O'Brien

Ship's sponsor Mrs. Rebecca Gates, wife of Secretary of Defense Robert Gates, breaks a bottle of Missouri champagne to christen the seventh Virginia-class attack submarine, *Missouri* (SSN-780).

reconnaissance; irregular warfare; and mine warfare missions. Adept at operating in both the world's shallow littoral regions and deep waters, *Missouri* will contribute directly to five of the six core capabilities of the Navy's maritime strategy: sea control, power projection, forward presence, maritime security and deterrence.

"She may patrol the waters of the Western Pacific or the North Atlantic. She may work with the Coast Guard and our international partners to stem the flow of illegal narcotics into our country. She may support our strike groups," said Mabus. "And she will deploy to answer whatever the unknown challenges of the future, wherever they may be, in support of our Maritime Strategy and our national objectives."

The 7,800-ton *Missouri* is being built under a teaming arrangement between General Dynamics Electric Boat and Northrop Grumman Shipbuilding—

Rep. Gene Taylor (D-Miss.) walks across the bow during the ceremony.



Photo courtesy of General Dynamics Electric Boat

Newport News. She is 377 feet long, has a 34-foot beam and will be able to dive to depths of greater than 800 feet and operate at submerged speeds in excess of 25 knots. *Missouri* is designed with a nuclear reactor plant that will not require refueling during the planned life of the ship, reducing life-cycle costs while increasing underway time.

The commanding officer of PCU *Missouri*, Cmdr. Timothy Rexrode, leads a crew of approximately 134 officers and enlisted personnel. The submarine is expected to be delivered to the Navy this year.

Lt. Evans is the public affairs officer for Submarine Group TWO.

Secretary and Mrs. Gates join Rep. James Langevin (D-R.I.) at the post-christening reception.



Photo courtesy of General Dynamics Electric Boat

Rep. Russ Carnahan (D-Mo.) poses with *Missouri* crewmembers during the post-christening reception.



Photo courtesy of General Dynamics Electric Boat

# Congress Congratulates Sub Force Sailors

On Dec. 2, 2009, the U.S. House of Representatives unanimously passed a concurrent resolution introduced by Rep. Norman Dicks (D-Wash.) congratulating the Sailors of the U.S. Submarine Force upon the completion of 1,000 deterrent patrols by *Ohio* (SSBN-726)-class ballistic missile submarines. The resolution had already passed the Senate, where it was introduced by Sen. Maria Cantwell (D-Ore.).

The House version appears below, followed by the names of all those who sponsored the concurrent resolution in both the House and the Senate.

## H. CON. RES. 129

### CONCURRENT RESOLUTION

Whereas the Sailors of the United States Submarine Force recently completed the 1,000th deterrent patrol of the *Ohio*-class ballistic missile submarine (SSBN);

Whereas this milestone is significant for the Submarine Force, its crews and their families, the United States Navy, and the entire country;

Whereas this milestone was reached through the combined efforts and impressive achievements of all of the submariners who have participated in such patrols since the first patrol of USS *Ohio* (SSBN-726) in 1982;

Whereas, as a result of the dedication and commitment to excellence of the Sailors of the United States Submarine Force, ballistic missile submarines have always been ready and vigilant, reassuring United States allies and deterring anyone who might seek to do harm to the United States or United States allies;

Whereas the national maritime strategy of the United States recognizes the critical need for strategic deterrence in today's uncertain world;

Whereas the true strength of the ballistic missile submarine lies in the extremely talented and motivated Sailors who have voluntarily chosen to serve in the submarine community; and

Whereas the inherent stealth, unparalleled firepower, and nearly limitless endurance of the ballistic missile submarine provide a credible deterrence for any enemies that would seek to use force against the United States or United States allies: Now, therefore, be it

Resolved by the House of Representatives (the Senate concurring), That Congress—

- (1) congratulates the Sailors of the United States Submarine Force upon the completion of 1,000 *Ohio*-class ballistic missile submarine (SSBN) deterrent patrols; and
- (2) honors and thanks the crews of ballistic missile submarines and their devoted families for their continued dedication and sacrifice.

Passed the House of Representatives December 2, 2009.

## House sponsors

Rep. Todd W. Akin (R-Mo.)  
Rep. Sanford D. Bishop, Jr. (D-Ga.)  
Rep. Madeleine Z. Bordallo (D-Guam)  
Rep. Dan Boren (D-Okla.)  
Rep. Allen Boyd (D-Fla.)  
Rep. Robert A. Brady (D-Pa.)  
Rep. Bobby Bright (D-Ala.)  
Rep. Joe Courtney (D-Conn.)  
Rep. Ander Crenshaw (R-Fla.)  
Rep. John Abney Culberson (R-Texas)  
Rep. Steve Driehaus (D-Ohio)  
Rep. Vernon J. Ehlers (R-Mich.)  
Rep. Brad Ellsworth (D-Ind.)  
Rep. Bob Filner (D-Calif.)  
Rep. John Fleming (R-La.)  
Rep. Randy J. Forbes (R-Va.)  
Rep. Doc Hastings (R-Wash.)  
Rep. Maurice D. Hinchey (D-N.Y.)  
Rep. Tim Holden (D-Pa.)  
Rep. Henry C. "Hank" Johnson, Jr. (D-Ga.)  
Rep. Walter B. Jones, Jr. (R-N.C.)  
Rep. Carolyn C. Kilpatrick (D-Mich.)  
Rep. Jack Kingston (R-Ga.)  
Rep. John Kline (R-Minn.)  
Rep. Doug Lamborn (R-Colo.)  
Rep. James R. Langevin (D-R.I.)  
Rep. Rick Larsen (D-Wash.)  
Rep. Eric J. J. Massa (D-N.Y.)  
Rep. Cathy McMorris Rodgers (R-Wash.)  
Rep. James Moran (D-Va.)  
Rep. Scott Murphy (D-N.Y.)  
Rep. Glenn C. Nye III (D-Va.)  
Rep. Solomon P. Ortiz (D-Texas)  
Rep. Chellie Pingree (D-Maine)  
Rep. David G. Reichert (R-Wash.)  
Rep. Thomas J. Rooney (R-Fla.)  
Rep. Joe Sestak (D-Pa.)  
Rep. Carol Shea-Porter (D-N.H.)  
Rep. Adam Smith (D-Wash.)  
Rep. Vic Snyder (D-Ark.)  
Rep. John M. Spratt, Jr. (D-S.C.)  
Rep. Gene Taylor (D-Miss.)  
Rep. Mac Thornberry (R-Texas)  
Rep. Todd Tiahrt (R-Kan.)  
Rep. Robert J. Wittman (R-Va.)  
Rep. C.W. Bill Young (R-Fla.)

## Senate sponsors

Sen. Saxby Chambliss (R-Ga.)  
Sen. Christopher J. Dodd (D-Conn.)  
Sen. Johnny Isakson (R-Ga.)  
Sen. Richard G. Lugar (R-Ind.)  
Sen. Patty Murray (D-Wash.)

# Putting the Man Back in the Loop

## Human Systems Integration in U.S. Submarines



Naval Undersea Warfare Center graphic

An artist's rendering of the *Virginia*-class Block III command and control center.

When discussing a new weapon system or platform, it has become commonplace to state something like, “The warrior is a premier element of all operational systems.” This ranks right up there with “our people are our most precious resource.” But as several chiefs of naval operations and other naval leaders have acknowledged, people are also expensive. For example, as much as 70 percent of the total life-cycle ownership cost of ships and submarines is directly or indirectly related to the human element.

Until recently, the Navy's approach to designing, engineering and acquiring complex weapon systems did not routinely or completely include the human “warrior” as an integral part of the system. Rather, the Navy viewed systems as combinations of hardware and software. The results were often less-than-optimal capability and high life-cycle cost—and sometimes even mission failure.

Given the high rate of technological change and the need to rein in cost in the face of increasingly constrained budgets, the Navy and the other services have increasingly embraced the need to consider human-performance capabilities and limitations up front and on an equal footing with hardware and software. This is true both for new acquisition and for technology-refresh programs.

The U.S. Submarine Force has champi-

oned human systems integration (HSI). HSI is a specialized engineering discipline that takes human-performance limitations and capabilities fully into account to influence system design and engineering early in the research, development and acquisition process, thereby helping to ensure the highest overall performance at the lowest total ownership cost. Implementation of HSI has involved new partnerships with unlikely partners such as the audio equipment company Bose, game-makers, the visual-reality industry, physiologists and psychologists.

Nowhere has this been more apparent than in the *Virginia* (SSN-774)-class Nuclear Attack Submarine Program.

### The Human-Centered *Virginia* Class

The 30-ship *Virginia*-class program has profoundly changed the way the U.S. Submarine Force focuses on the human in the design, engineering, acquisition and operation of advanced submarine technologies, systems and platforms. The ultimate goal was to arrive at an optimal crew size and composition to sustain performance throughout the entire spectrum of anticipated tasks, from leaving homeport to high-tempo wartime ops. From the outset, the design and engineering of the *Virginia* class fully incorporated HSI fundamentals. Human factors engi-

neering was incorporated in combat systems and ship control. Manpower and human performance requirements addressed optimal manning goals. Personnel considerations influenced the layout of spaces, quality-of-life features, and maintenance. The innovative On-Board Team Trainer (OBTT) addressed the need for enhanced training opportunities.

In 1991, Navy officials established the *Virginia*-class Manpower Optimization Steering Committee (MOSC) to analyze concepts for the size and composition of the crew. During 1992, the MOSC's overall manning analysis determined that 118 crewmembers—14 officers and 104 enlisted—were required to satisfy at-sea watchstanding and maintenance requirements. In-port needs drove another 16 crewmembers, for a total of 134, compared to 141 (16 officers and 127 enlisted) for the improved *Los Angeles* (SSN-688)-class submarines already in service.

During several concept-of-operations exercises (COOPEXs), combat system designers and engineers went beyond the use of plywood mockups and took advantage of innovative computer-aided design/computer-aided manufacturing (CAD/CAM) software tools, such as “Ergo Man,” which enabled them to assess human interactions and performance in a synthetic 3-D product model. The Ergo Man model allowed engineers to test a variety of arrangements, displays, equipment, hardware and software before they finalized designs and physical integrations.

HSI design elements were critical to the “fly-by-wire” Ship Control System in the *Virginia* class, which incorporates enhanced user-friendly touch-screen displays and a single “joy stick” to drive the sub. The Ship Control System allows only two men—the pilot and co-pilot—to control the ship as effectively and safely as the five watchstanders who traditionally perform that function. The experience of the USS *Hawaii* (SSN-776) on her first deployment in 2008 underscored the success of the HSI process. According to the submarine's commanding officer, Cmdr. Edward Herrington, the fly-by-wire system performed superbly during

nine naval special warfare and special operations evolutions, maintaining depth within a strict band and hovering for 35 hours in a challenging sea state, which exceeded the naval special warfare requirement.

Another *Virginia*-class HSI innovation was to include all key personnel—combat control watchstanders, pilot and co-pilot, and sonar men—in the integrated Command and Control Center (CACC). A new non-hull-penetrating photonics mast replaced the two periscopes around which previous submarine combat control centers were designed, allowing the control room to be moved down a level into a wider part of the ship. The additional space allowed sonar men to move into the control room with other watchstanders. To isolate the sonar men from CACC ambient noise, the Naval Submarine Medical Research Laboratory (NSMRL) in Groton, Conn., worked with Bose Corporation to develop noise-cancellation headphones. The full integration of sonar men into command decision-making greatly improved communication and situational awareness for the entire tactical and ship-control team.

The *Virginia*-class On-Board Tactical Trainer (OBTT), another HSI innovation, improves upon the “train as you fight” concept, enabling crews to train “where they will fight”—at their watchstations—by linking actual mission-critical functions and systems to a “synthetic” tactical environment. Training scenarios are designated by the OBTT Master Controller and can range from routine but still potentially dangerous evolutions—such as leaving or returning to homeport or transiting a busy strait—to a variety of “real-world” tactical evolutions—including mine countermeasures/avoidance; anti-submarine warfare search and prosecution; anti-surface ship attack; covert intelligence and surveillance; special operations support; and sea strike. The OBTT’s “train where you fight” capability greatly enhances the operational flexibility of *Virginia*-class crews by allowing them to conduct just-in-time training in response to emerging deployment challenges.

As Vice Adm. Jay Donnelly, Commander Submarine Force, noted during the July 2008 Undersea HSI Symposium, “These and other *Virginia*-class system design improvements made large strides toward optimizing human-machine performance while reducing the number of people required to operate and maintain the submarine.”

## More Can and Must be Accomplished

As great a leap as the *Virginia* class was for integrating HSI in the submarine design process, much of the class’s design and manning structure is still constrained by legacy systems and traditional organizational alignments. Then-Cmdr. Todd Cramer, commanding officer of *Virginia* during her maiden deployment, noted at the 2008 Undersea HSI Symposium that the incorporation of advanced computer-based technologies and sensors has inadvertently created a new technical challenge, which he called “information access across the seams.” For example, the 64 flat-screen displays in the *Virginia*-class control room, each with multiple layers of information, provide more than the average commanding officer or officer of the deck (OOD) can process.

Addressing this technical challenge requires a system-of-systems approach to bridge the numerous software and hardware seams. Fusing information into a more “operator-friendly” format is increasingly important to ensure that decision-makers get the right information at the right time. This imperative will undoubtedly influence the insertion of new systems and technologies into submarines already in service. Since FY 2007, the Naval Sea Systems Command (NAVSEA) Human Systems Integration Engineering Organization has taken steps to develop guidance for “common presentation” that applies proven best practices and technological innovations to the problem.

The Human Systems Integration Design Environment (HSIDE), sponsored by the Office of Naval Research (ONR), seeks to ensure effective HSI involvement throughout the life cycle, beginning with concept definition. A major component of HSIDE is the definition of a mission-focused, functional submarine model, which will be used to define ship and system functional requirements and allow program managers to balance manning costs and technological risk.

Impressive as all these technical advances may be, command and control decision-making in submarine warfare remains more an art than a science, and a thorny HSI challenge is to develop a cognitive model to better understand and reflect how the warfighter interacts with the information available. Physical, behavioral and social factors—physiology,

psychology, sociology, organizational theory, and management science—all must be taken into account.

The January 2007 collision between USS *Newport News* (SSN-750) and the M/V *Mogamigawa* in the Strait of Hormuz exemplifies the critical battle-space awareness and decision-making challenges that HSI is helping the Submarine Force to address. One common thread in Class A mishaps is that important information is often available but not directly in the hands of the right people when needed. In this instance, critical members of *Newport News*’s crew did not detect the deep-draft merchant ship approaching from astern in shallow water until it was too late to avoid a collision.

The HSI solution to this problem might be as simple as designing computer algorithms that can identify critical information and prompt the operators to look at and analyze the data, even if they do not have the display called up. ONR, NSMRL, the Naval Undersea Warfare Center (NUWC) and Johns Hopkins University Applied Physics Lab (JHU/APL) are working on a prototype of a state-of-the-art, integrated 3-D audio-visual capability with cueing controls for sonar displays. ONR researchers are incorporating advanced signal processing to improve acoustic signal analysis and optimize the use of the operator’s aural and visual senses. The goal is to effectively double a sonar operator’s sensory inputs by integrating spatial audio into sonar systems, thereby increasing the operator’s situational awareness and recognition differential.

Many collisions and groundings while the submarine is on the surface have occurred when the needed information was in the control room but was not available to the OOD on the bridge. In clear weather, the OOD’s vantage point atop the sail improves his awareness of the contact and navigational situation. However, his watch team below in the control room does not share his situational awareness, and that, in turn, can limit his access to the numerous tools at their disposal. This limitation can be particularly problematic during inclement weather, when the OOD’s visual picture is obscured. Surface operations would benefit greatly if the OOD, the CO, and the watchroom all had the same level of awareness. Providing that common awareness is a complex problem, and good HSI will be vital for solving it.

To that end, ONR has funded JHU/APL to research decision-support tools



Naval Undersea Warfare Center graphic

On *Virginia*-class submarines, sonar stations are fully integrated in the command and control center.

and team-training solutions that can help provide shared situation awareness for the submarine command team, enhance their ability to make sense of the shared information, and ensure timely and accurate decisions in complex, stressful environments. Researchers are using HSI analysis, including the integration of cognitive work analysis (CWA) and cognitive task analysis (CTA), to develop more intuitive displays of key information, including trends and patterns associated with contact information, uncertainty, navigational hazards, etc. The aim is to enable the command team to execute the plan while projecting roughly half an hour into the future to maintain ship safety and stealth distances from threatening contacts. Among other things, this will call for training solutions that enhance submarine command teams' "sense-making" skills — particularly as they relate to the critical cognitive challenges of building the picture, building the plan, focused engagement and adaptability.

While replacing periscopes with non-hull-penetrating photonics masts is certainly a step in the right direction, submarines will continue to view the world with the same limited field of view. With this constraint in mind, one research and development project addressed providing a 360-degree periscope view so future submariners can see in every direction simultaneously. The project also seeks to integrate this enhanced visual picture with other sensor data to help operators correlate it with contacts from sonar, radar and electronic support measures. Additionally, next-generation digital periscope displays will maximize the recognition differential by taking advantage of recent advances in our knowledge of the human eye and how

the brain processes visual data.

Finally, it is critical to remember that the "H" is for "human," and that all HSI solutions assume the ability to keep Sailors safe, healthy and alert. The submarine environment is closed for long periods. While the quality of the atmosphere is constantly monitored, many specific compounds must be monitored for possible longer-term effects.

NSMRL's Submarine Atmosphere Health Assessment Program uses sampling techniques similar to the badges submariners wear for radiation measurement to collect information about such compounds in operational submarines. The program also employs more intensive air sampling during sea trials of new submarines. NSMRL is also addressing other critical HSI concerns, such as fatigue. For example, in close collaboration with the Submarine Force, it is researching possible changes to the on-board watchstanding schedule to reduce problems associated with changing circadian rhythms and sleep deprivation. This work includes tests during actual submarine operations to complement laboratory tests.

The ultimate test of safety is the ability to survive and escape from a disabled submarine, no matter how unlikely that event. NSMRL has conducted tests of a crew's ability to survive, maintain a breathable atmosphere, and provide food and light in such situations. It has also conducted tests of a new escape suit and a device to improve the visibility of survivors on the surface.

### Setting the HSI Course for the Submarine Force

HSI optimizes the total system equation by integrating the human factors of engineering, manpower, personnel, training, habitability, safety, personnel survivability, and health into the system acquisition process. While tech-

nologies, hardware and software are clearly important, HSI is critical for maximizing system performance and minimizing total ownership cost. Only after measuring the performance of the total system — Sailors as well as hardware and software — can we certify that our systems and platforms will satisfy critical requirements.

"From my perspective," Vice Adm. Donnelly stated, "there are some common aspects for any HSI solution. First, it must solve a real problem, and second, it must be affordable. Additionally, when solving warfighter performance problems, the solutions should be intuitive, and the commanding officer must have faith in the reliability of the information provided."

Today, the *Virginia* class is the "poster child" for HSI in the U.S. Submarine Force. From the outset, it embraced the fundamental principles of HSI to inform intelligent tradeoffs and decisions. In the future, improved HSI processes and knowledge will enable us to take the next leap, developing game-changing improvements to our submarines' broad-spectrum mission capabilities. Infusing such improvements into current and future submarine classes will require well-conceived and well-supported HSI to ensure that the total system — hardware, software, and people — meets the daunting challenges on the horizon. Only then will our Sailors, our most precious — and expensive — resource, have all the tools for success in tomorrow's missions.

Ms. Hamburger is director of human systems integration and integrated warfare systems engineering in the Naval Sea Systems Command and also serves as technical director of the Program Executive Office, Integrated Warfare Systems (PEO IWS).

Mr. Miskimens, technical director of the Program Executive Office, Submarines (PEO SUBS), served as deputy program manager of the *Virginia*-Class Nuclear Attack Submarine Program and deputy program manager of the *Ohio* (SSGN-726) Conversion Program.

Dr. Truver is director of national security programs at Gryphon Technologies LC.

# FINDING GOLD

## *Tracing the Life of a World War II Hero*



*The following is a greatly condensed adaptation from the book Full Fathom Five: A Daughter's Search, by Mary Lee Coe Fowler, University of Alabama Press, 2008.*

Fifty-five years after my father, Cmdr. James W. "Red" Coe, was lost with all 76 men aboard the submarine *Cisco* (SS-290), I went looking for him. I had no idea what I'd find. My mother, who remarried when I was just a year old, had told my siblings and me little about our father. In 1999, when I went to my first conference of World War II "orphans"—the term the post-war Bureau of Veterans Affairs assigned us, even though we had mothers, and often stepfathers—I found that this bare-bones account was typical of an era when war widows were advised not to look back but to move on and make up for lost time.

So most of us "orphans" were starting from scratch, typically in middle-age, with our kids grown and careers winding down. When I first heard what some others had discovered in their research, I wobbled a bit in my determination to "find" my own father. One told me that his father died on the Bataan Death March because he disobeyed Japanese orders and grabbed as much discarded stuff along the road as he could carry. His son concluded that his dad was probably a victim of his own greed, or at least foolishness. Another discovered that his father did not die in battle, as he thought, but apparently committed suicide

while under suspicion of stealing from his regiment. Others found that their father's relatives quickly cut off all contact with his widow and children.

Hearing these stories, I figured maybe I was lucky my father remained shrouded in silence, which at least ensured that I would not be disappointed. But mementos I found in my mother's apartment after her death in 1998 persuaded me otherwise. They showed that she cherished Red Coe's memory, tending his 1935 overcoat, polishing his Naval Academy ring, and keeping close at hand a picture of him with my siblings that she had never shown me. This evidence of her abiding love compelled me to find out more about my father.

One of the first things I found was that he was funny. Veterans of *S-39*, my father's first command, recalled him and Wreford "Moon" Chapple, skipper of *S-38*, playing a version of polo at the Army-Navy club in Manila, riding bikes straight at each other while trying to whack a soccer ball with golf clubs. Another time, the two boats had a softball game, and Red Coe, having discovered that his radioman, Howie Rice, had been a high school gymnast and could walk on his hands, arranged for a hand-walking contest between innings. But the *S-38*ers learned that Rice was a teetotaler and plied him with beer. At a submarine veterans' convention some 50 years later, Rice recalled not even being able to walk upright, much less on his hands.

Later, when Red was captain of *Skipjack* (SS-184), a supply officer at Mare Island, Calif., rejected his requisition for toilet paper, stating that the "requested material couldn't be identified." Attaching a square of toilet paper to his reply, Red wrote that he couldn't help wondering what they were using in Mare Island in place of this "unknown material, once well-known to this command." He went on to say that in the 11 months *Skipjack's* crew waited for a response, they frequently hadn't been able to wait, making the situation quite dire. Meanwhile, they were making do with all the non-essential paperwork flowing into the boat, in compliance with the Bureau of Ships request to reduce paperwork.

Eager to find out more, I spent the next three years piecing together my father's life from interviews, submarine literature, World War II archives and naval documents. I made a collage of Red Coe pictures for our living room; read many submarine books; toured World War II-vintage submarines like *Lionfish* (SS-298), in Fall River, Mass.; pored over *Skipjack* patrol reports; queried sub vets about the war years; and talked with my sister and brother about their vague childhood impressions of our father.

Red had dreamed of being an aviator; a large photo of Charles Lindbergh adorns his Naval Academy scrapbook. He was assigned to air training after graduation, but poor circulation kept him from pass-

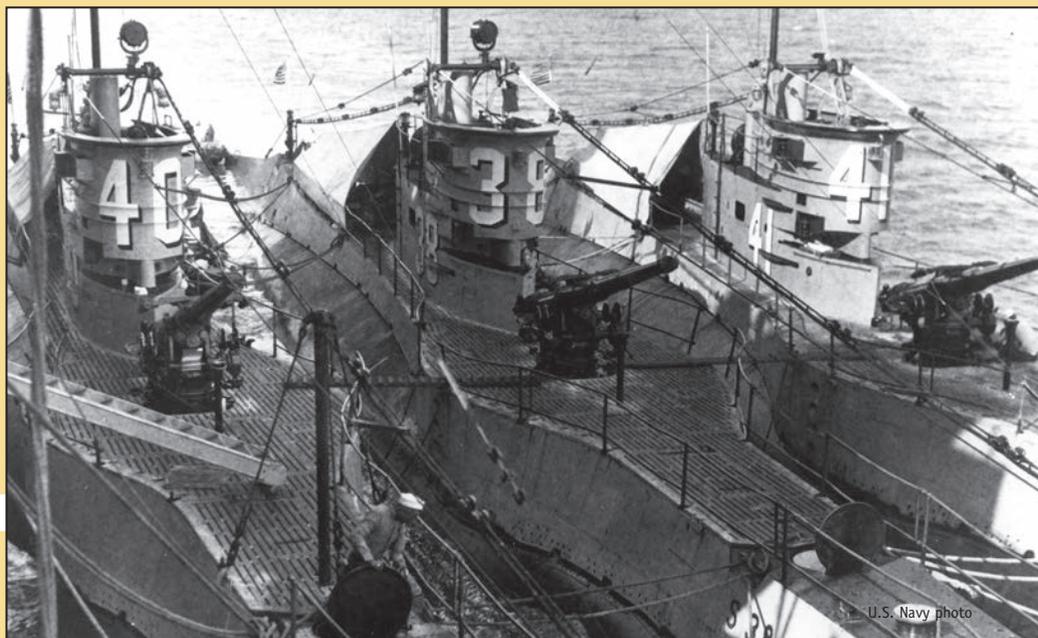


U.S. Navy photo

ing the physical, so he went to surface ships. After completing Submarine School in Groton, Conn., in December of 1933, he went to Pearl Harbor, Hawaii, where he worked his way up on two World War I-vintage *S*-boats (also known as “pigboats”). In 1937, he was assigned to teach navigation at the Naval Academy. In 1939, he and my mother went to Manila, in the Philippines, where — at the young age of 30 — he got his first operational command: *S*-39, another old “pigboat.”

*Pigboat 39*, a book by Bobette Gugliotta that chronicled my father’s years in that decrepit but gallant boat, led me to retired Capt. Guy Gugliotta, widower of the author. Guy lined up some other *Skipjack* veterans for us to meet, and they inspired me to continue my research. They all had that wonderful combination of keen intelligence, passion for the boats, and modesty that I have come to associate with submariners—as well as a zest for life that came from knowing how lucky they were to survive.

My father took command of *S*-39 as the era of “no strain in Asia” — Navy shorthand for luxurious living in the Far East — came to an end. With hostilities looming, the Navy brought in strict, no-nonsense Adm. Thomas C. Hart to head the expanding Asiatic Fleet. Hart beefed up training and sent Navy wives and children back to the States. Although *S*-39 had no air conditioning, Red Coe worked his men hard to make



U.S. Navy photo

(Opposite) USS *Skipjack* (SS-184), shown leaving Mare Island Navy Yard, Calif., in March 1943.

(Above) Three of the Asiatic Fleet’s six *S*-boats, including *S*-38, the boat commanded by Red Coe’s close friend, Wreford “Moon” Chapple.

up for its lack of sonar and radar and its constant leaks and mechanical breakdowns. He kept up morale with competitions with *S*-38, “field-trips” to local breweries, games of liars dice, chess by blinker-light with other subs at the dock, and competitions for the best sea stories.

*S*-39 was on patrol near the San Bernardino Strait when the Japanese attacked Pearl Harbor and the order went out to “execute unrestricted ... submarine warfare against Japan.” On Dec. 8, the sub spotted a cargo ship flying no flag, surfaced, and prepared to sink it with gun fire. But first Red Coe did everything possible to make contact. He used a megaphone to order the ship to identify herself, and he signaled by whistle, but the ship kept going. Only when he ordered a shot across the bow did someone on board finally hoist a Philippine flag. My Quaker upbringing and protests against the Vietnam War made me a pacifist when I was in college, but this event put the lie to the glib assumption of Vietnam-era protesters that everyone in uniform was a warmonger. Far from trigger-happy, Red Coe hesitated to attack an unidentified ship. The sub vets I inter-

viewed told me that career Navy men of that day were the last to want war because they knew what it meant. Once it broke out, they didn’t expect to make it home.

On Dec. 11, *S*-39 ran into a Japanese convoy. Japanese destroyers spotted them and gave them their baptism of fire, holding them down for a full day of vicious depth-charging. Oxygen deprivation made the crew lightheaded. The temperature soared to 110 degrees, and the men had to take off their undershirts and wrap them around their necks like scarves to prevent their sweat from making the deck any slipperier. Finally, the destroyer sounds receded, and they could surface, but as soon as they had replenished the boat with fresh air, they saw what looked like a ship. My father ordered the men to fire two torpedoes. Hearing no explosion, he approached cautiously and realized he had fired on an island.

The next night, they sighted a Japanese submarine but chose to creep away. The skipper then spotted an enemy freighter through the periscope, about 12,000 yards off the port bow. Ordering battle stations, he began the cautious approach required in pre-war training, with short glimpses

through the periscope to plot target range, course and speed alternating with depth excursions to a hundred feet to close range. *S-39* fired two-torpedoes from within 3,000 yards and, after a tense two and a half minutes, heard two explosions. The target went down by the stern, listing to port. In a 1943 newspaper interview, my father said he was so entranced that he failed to spot destroyers approaching from behind until they fired at the periscope.

Diving to 150 feet, he ordered the crew to rig for silent running and depth-charge attack. This time, they were pinned down even longer, with four destroyers pinging but, strangely, not dropping depth charges. At last, with little oxygen left, my father prepared to surface in the face of the enemy. He ordered then-Ensign Guy Gugliotta to pack the boat's documents in a canvas bag for quick dispatch overboard, with some wrenches to weigh it down. As they were about to surface, the sonarman reported the pinging receding. The sounds died away, and they surfaced to find the sea blessedly empty. My father, in another newspaper interview, speculated that the Japanese submarine they spotted earlier must have been the reason the destroyers did not drop depth charges.

Returning to Manila to refuel and stock up on torpedoes, they found the city, airfield and navy yard in ruins. *S-39* received orders to patrol southward in the Philippines and then proceed to Java. They made it to Surabaya, Java, in February and were just getting crucially needed repairs under way when the Japanese bombed the port to rubble. Grabbing repair materials, the crew of *S-39* hurriedly put to sea. They were then ordered to look for a group of downed British airmen reported on the nearby island of Chebia but found only evidence that the Japanese had beaten them to the hapless airmen.

*S-39* turned dispiritedly towards Fremantle, Australia, a voyage of at least five days though waters reportedly heavily patrolled by the enemy. As they set out on March 4, 1942, they spotted Japanese ships and sank the tanker *Erimu Maru*. They paid for this with the most vicious depth-charging yet, with the Japanese calling in aerial bombers to join the destroyers. Misled by erroneous Dutch charts, *S-39* had grounded on the muddy bottom and inadvertently churned up telltale clouds whenever she tried to creep

away. When the skipper finally realized *S-39* was churning up mud, he ordered a sharp burst of speed to break her loose, took her up just enough to let the mud-clouds dissipate, and crept away. Still, it was seven more hours before the sounds of destroyers and planes faded away.

It was night when they surfaced near a low, dark island, which seemed a safe place to recharge batteries. But well before they finished, they heard a Japanese destroyer approaching. It shined a searchlight on one end of the island, then started a precise sweep along the shoreline in the direction of the sub. Trapped in water too shallow to dive, *S-39* could do nothing but turn off all sound and reduce its silhouette by turning to face the destroyer. The men stood by the deck gun ready to fire as the light swept nearer. Some fortunate wobbliness or carelessness on the part of the sailor handling the searchlight suddenly sent the beam up to the treetops behind them. It hovered there a second, then descended to shore-level on the other side of the boat. The *S-39*ers stood there, hardly breathing, as the light swept on to the end of the island, and then the destroyer slowly turned and chugged out to sea.

Giddy with relief, the *S-39*ers fled toward the Sunda Strait, where, as crewman Charles Witt told me, Red Coe pulled them through hell that night, struggling to control the boat while a swift current 100 feet down swept her sideways and Japanese ships swarmed overhead. The exhausting voyage continued. Short of drinking water, the crew had to catch rainwater in a barrel on deck. Food was almost gone as well. Tropical heat prostrated the men and gave them painful white blisters and skin rashes. The port engine blew, and the boat lost three days trying to fix it before giving up and proceeding on one engine. With a worn out clutch to boot, the old boat limped along at only seven knots, a sitting duck, for the roughly ten days it took to reach Fremantle.

Morale at Fremantle was low. The submarine crews all had stories of defective torpedoes and desk-bound brass blaming the poor results on improper set-ups by the skippers. The brass also blamed the skippers for lack of aggressiveness, despite pre-war training emphasizing daylight submergence and cautious approaches. Skippers now had to come up with offen-

sive tactics on the fly or be "bilged" out of submarines. My father escaped criticism because of *S-39*'s two credited sinkings, a rare success for any *S*-boat. On March 28, only a week after reaching Fremantle, he was given command of the fleet-boat *Skipjack* (SS-184).

In his first patrol (*Skipjack*'s third), Red Coe sank four ships, the best single patrol so far in that theater. Aggressive and innovative, he even turned a mistake into the first successful "down-the-throat" shot. Misjudging an approach and getting too close to wait for a favorable track and gyro angle, he had to shoot a spread from only 650 yards at the narrowest angle as the ship approached. The magnetic exploder of one MK 14 torpedo functioned perfectly, blowing the bottom out of *Kanan Maru*. But defects in other MK 14s ruined many attacks. Red's patrol report pulled out all the stops, describing vapor from torpedo wakes going all the way to a target as the torpedoes passed harmlessly underneath, running too deep to detonate. What's more, this occurred most often in runs of less than 1,000 yards—wasting hard-won attack positions. The patrol report recommended controlled tests at short ranges so submariners would at least know the torpedoes' limitations. Rear Adm. Charles Lockwood, Commander, Submarines, Southwest Pacific, had *Skipjack* run tests with the three torpedoes remaining from her patrol, leading to the first of many fixes needed to make the MK 14s reliable.

Red Coe received the Navy Cross for his high-scoring first patrol in *Skipjack* and his work in *S-39*. But two more patrols and over two years of continuous command left him exhausted. *Skipjack* also badly needed an overhaul, limping into Pearl Harbor in December 1942 with the crew sick from bad drinking water. On the dock at Pearl was a mountain of toilet paper in belated response to the skipper's June letter to the Mare Island supply depot. Toilet paper flew from masts and flagpoles, people meeting the boat had toilet-paper ties, and a brass band had toilet paper unrolling out of their trumpets with every blast.

*Skipjack* went to the shipyard, and my father to "new construction." In January 1943, he joined his family at Portsmouth Naval Shipyard in Kittery, Maine, where he would monitor the construction and sea trials of *Cisco* (SS-290), a boat of the new *Balao* (SS-285) class. He spent a precious six



The six S-boats of the Asiatic Fleet's Submarine Squadron FIVE nested alongside the submarine tender USS *Canopus* (AS-9). S-39 is on the right.

months with my mother, brother and sister. (I was not born until the following year.) Portsmouth was vying with other shipyards for who could build boats fastest. A *Balao*-class boat typically took more than 100 days from keel-laying to launching; *Cisco* did it in a record 56 days. But she may have paid a price. Records of her sea trials show continual repairs to fix a persistent oil leak. While she was docked one night, a fuel tank with all valves closed was ruptured by a high-pressure air bank that was bled into it. The tank had to be cut out and dimpled plating replaced and re-welded.

*Cisco* reached Fremantle in late July 1943. After training off Brisbane, she proceeded to Darwin, where she was to start her first patrol Sept. 18th. A few days before her departure, the head radioman, Howie Rice—the gymnast from the S-39's softball game—who had petitioned for a berth under his former skipper, came down with a case of jaundice and was ordered ashore. In sick bay, he ran into Red Coe, who was getting a physical as part of his promotion to commander. Rice remembers saying goodbye on the street outside the sick bay. The skipper was quiet and somber, and when he got into the jeep, and the driver took

off, he turned around and stared at Rice until they were out of sight. Rice remembers it as a puzzled look, as if he were thinking, "Why am I losing my head radioman at a time like this?"

This makes me think of a passage from a letter my father wrote to his mother earlier in the war: "I am finally a lieutenant commander ... but rank doesn't mean a thing to me now, and that's no fooling. This war has changed all that—it's the job you're doing and how you're doing it that counts. The gold braid is superfluous..." (J.W. Coe to Phoebe Coe, Aug. 11, 1942). He amply demonstrated this attitude by an egalitarian leadership style that had him up to his elbows in the bilges of the S-39, feeling for leaks, or eating with the enlisted men on *Skipjack* and *Cisco* to make sure their food was as good as the officers'.

On Nov. 6, the day *Cisco* was due back from patrol, Rice went down to the docks and climbed up to the bridge of the squadron's submarine tender. Escorts waited at the entrance buoys to guide *Cisco* in, but the horizon remained empty. Rice spent the next few weeks returning *Cisco's* waiting mail to the senders, little distraction from the guilt he felt

for not being on *Cisco*, where perhaps he might have done something in her final hours that a less experienced radioman wouldn't think of. Fifty-five years later, when I met him at a sub vets' conference, the first question he asked me was, "Did your mother get her returned mail?"

This is the feeling that tinges Memorial Day services for the 52 boats lost in the war, which I've attended ever since I "found" Red Coe. "Why me?" the old submariners wonder, some of them out loud. World War II memorial services would have been the last place you'd have found me until I started my research, but Red Coe changed that. In interviewing sub vets who had served with him, I discovered a rare mix of competence, humility and first-hand knowledge of their own mortality that gave their words weight. I learned at a late age to separate the men and women in uniform from the policy-makers when I thought about war. That's what we didn't do—to my shame—during Vietnam.

Red Coe taught me more. Now, when I look in the mirror, I no longer bemoan new gray hair, more lines around the eyes. I look for him in my face, curious about how he would have aged if he had what I now know is the privilege of a natural lifespan. He lives inside of me in the new recognition of traits that match what I've discovered about him. These days, when I meet other war orphans and hear their stories, I know that I'm one of the lucky ones. I've found gold, with glints of red in it.

# Farewell to the First of Class

by John J. Patrick

Crewmembers of USS *Los Angeles* (SSN-688) manned the rails for the last time on Jan. 23, 2010, for a decommissioning ceremony at the Port of Los Angeles. The decommissioning was a significant milestone in the history of the U.S. Submarine Force.

*Los Angeles*, now undergoing deactivation at Puget Sound Naval Shipyard in Bremerton, Wash., was built at Newport News Shipbuilding in Newport News, Va., and commissioned on Nov. 13, 1976. She was the lead ship of a class that set a new standard for speed, quietness and combat capability. She and the 61 hulls that followed, including 23 “688i” boats with even greater capability, also constituted the most numerous class of nuclear submarines ever built by any country.

Having served America well for three decades or more, older boats of this landmark class are now leaving the fleet to make way for new submarines of the *Virginia* (SSN-774) class, which represents today’s state of the art.



Photo by Chief Petty Officer Jeffrey Wells

Sailors man the rails on USS *Los Angeles* (SSN-688) during the decommissioning ceremony at the Port of Los Angeles.

## Changes of Command

COMSUBGRU TWO  
Rear Adm. Michael McLaughlin relieved  
Rear Adm. Paul Bushong

COMSUBGRU SEVEN  
Rear Adm. Robert L. Thomas, Jr. relieved  
Rear Adm. Michael J. Connor

COMSUBRON EIGHT  
Capt. Frank Cattani relieved  
Capt. Robert Kelso

COMSUBRON FOUR  
Capt. Michael Bernacchi relieved  
Capt. Robert Clark

Naval Submarine Support Center,  
Norfolk  
Cmdr. Richard Alsop relieved  
Capt. Voltaire Brion

USS Norfolk (SSN-714)  
Cmdr. Douglas Jordan relieved  
Cmdr. Troy Jackson

USS Scranton (SSN-756)  
Cmdr. Paul Whitescarver relieved  
Cmdr. Wesley McGuinn

USS Montpelier (SSN-765)  
Cmdr. Thomas Buchanan relieved  
Cmdr. Thad Nisbett

USS La Jolla (SSN-701)  
Cmdr. Erik Burian relieved  
Cmdr. Douglas A. Sampson

USS Michigan (SSGN-727)(G)  
Capt. Philip G. McLaughlin relieved  
Capt. Charles J. Doty

USS Alaska (SSBN-732)(B)  
Cmdr. Kevin Byrne relieved  
Cmdr. Paul Haebler

USS Cheyenne (SSN-773)  
Cmdr. Gary A. Rogeness relieved  
Cmdr. Michael J. Tesar

USS Buffalo (SSN-715)  
Cmdr. Michael D. Lewis relieved  
Cmdr. Christopher M. Henry

USS Hawaii (SSN-776)  
Cmdr. Stephen G. Mack relieved  
Cmdr. Edward L. Herrington

USS Louisville (SSN-724)  
Cmdr. Lee P. Sisco relieved  
Cmdr. John A. Sager

USS Nevada (SSBN-733)(B)  
Cmdr. Edward A. Schrader relieved  
Cmdr. Mark D. Behning

USS Santa Fe (SSN-763)  
Cmdr. David A. Adams relieved  
Cmdr. Vernon J. Parks

USS Boise (SSN-764)  
Cmdr. Brian Sittlow relieved  
Cmdr. Paul Snodgrass

USS Seawolf (SSN-21)  
Cmdr. Daniel L. Packer relieved  
Cmdr. Harry L. Ganteaume

USS Ohio (SSGN-726)(G)  
Capt. Dixon Hicks relieved  
Capt. Dennis Carpenter

USS La Jolla (SSN-701)  
Cmdr. Jeff Bernard relieved  
Cmdr. Erik Burian

USS Kentucky (SSBN-737)(G)  
Cmdr. Joseph Nosse relieved  
Cmdr. Benjamin Pearson

USS Henry M. Jackson (SSBN-730)(G)  
Cmdr. James M. Bilotta relieved  
Cmdr. Daniel Arensmeyer

USS New Hampshire (SSN-778)  
Cmdr. John McGunnigle relieved  
Cmdr. Mike Stevens

USS Philadelphia (SSN-690)  
Cmdr. David Soldow relieved  
Cmdr. John Spencer

USS Virginia (SSN-774)  
Cmdr. Tim Salter relieved  
Cmdr. James Waters III

## Qualified for Command

Lt. Cmdr. Justin W. Anderson  
Trident Training Facility Kings Bay

Lt. Cmdr. Joseph Coleman  
COMSUBRON SEVENTEEN

Lt. Cmdr. Sean Ferguson  
USS Kentucky (SSBN-737) (B)

Lt. Cmdr. Christopher T. George  
COMSUBRON SIXTEEN

Lt. Cmdr. Michael P. Hollenbach  
COMSUBRON TWO

Lt. Cmdr. Marty D. Huhl  
COMSUBRON EIGHT

Lt. Cmdr. James F. Hurt  
COMSUBRON SIXTEEN

Lt. Cmdr. Maurice G. Joy  
COMSUBRON TWENTY

Lt. Cmdr. Darrell S. Lewis  
COMSUBRON SIXTEEN

Lt. Cmdr. Matthew Lewis  
USS Olympia (SSN-717)

Lt. Cmdr. Christopher J. Lord  
COMSUBRON TWENTY

Lt. Cmdr. Michael C. Oberdorf  
COMSUBRON FOUR

Lt. Cmdr. Thomas P. O'Donnell  
COMSUBRON FOUR

Lt. Cmdr. Jeremy Pelstring  
USS Helena (SSN-725)

Lt. Cmdr. Corey Poorman  
USS Jefferson City (SSN-759)

Lt. Cmdr. Daniel J. Reiss  
COMSUBRON TWELVE

Lt. Cmdr. Robert W. Sawyer  
COMSUBRON TWELVE

Lt. Cmdr. Shaun S. Servaes  
COMSUBRON TWENTY

Lt. Cmdr. Todd Stansfield  
USS Asheville (SSN-758)

Lt. Cmdr. Brett Sterneckert  
USS Asheville (SSN-758)

Lt. Cmdr. Brian T. Turney  
COMSUBRON TWENTY

Lt. Cmdr. David C. Vehon  
COMSUBRON TWO

Lt. Cmdr. William Wiley  
USS Kentucky (SSBN-737)(B)



Lt. James Faison  
USS Michigan (SSGN-727) (B)

Lt. Robert C. Schultz  
COMSUBRON TWO

## Qualified Nuclear Engineer Officer

Lt. Eric Carter  
USS Henry M. Jackson (SSBN-730) (B)

Lt. Jonathan Connelly  
USS Hawaii (SSN-776)

Lt. Paul Evans  
USS Ohio (SSGN-726) (B)

Lt. Bradford Foster  
USS Columbia (SSN-771)

Lt. Samuel Fromille  
USS Louisville (SSN-724)

Lt. Justin Grover  
USS Columbus (SSN-762)

Lt. Scott Hackman  
USS Helena (SSN-725)

Lt. Christopher Hoover  
USS La Jolla (SSN-701)

Lt. Daniel Huynh  
USS San Francisco (SSN-711)

Lt. Timothy Perkins  
USS City of Corpus Christi (SSN-705)

Lt. Jarrad Pilgrim  
USS Los Angeles (SSN-688)

Lt. Sean Powers  
USS Jefferson City (SSN-759)

Lt. Richard Sanford  
USS Kentucky (SSBN-737) (B)

Lt. Stephen Schall  
USS Olympia (SSN-717)

Lt. David Turpin  
USS Bremerton (SSN-698)

Lt. Grant Wanier  
USS Kentucky (SSBN-737) (B)

Lt. Andrew Warner  
USS Nebraska (SSBN-739) (G)

Lt. Stephen Winchell  
USS Charlotte (SSN-766)

Lt. Jason Wohlgemuth  
USS Louisiana (SSBN-743) (B)

Lt. Steven Yang  
USS Nevada (SSBN-733) (B)

Lt. j.g. Benjamin Abeto  
USS Tucson (SSN-770)

Lt. j.g. Mark Burchill  
USS Alabama (SSBN-731) (G)

Lt. j.g. Russell Canty  
USS Alabama (SSBN-731) (G)

Lt. j.g. Paul Carman  
USS San Francisco (SSN-711)

Lt. j.g. Gregory Coy  
USS Bremerton (SSN-698)

Lt. j.g. John Donovan  
USS Pennsylvania (SSBN-735) (G)

Lt. j.g. Albert Ferguson  
USS Los Angeles (SSN-688)

Lt. j.g. Michael Fisher  
USS Hampton (SSN-767)

Lt. j.g. Thomas Gray  
USS Alabama (SSBN-731) (B)

Lt. j.g. Kerry Grubb  
USS Charlotte (SSN-766)

Lt. j.g. Aaron Henrichsen  
USS Henry M. Jackson (SSBN-730) (G)

Lt. j.g. Joseph Huck  
USS Greenville (SSN-772)

Lt. j.g. Nicholas Jackson  
USS Michigan (SSGN-727) (B)

Lt. j.g. Daniel Jones  
USS Chicago (SSN-721)

Lt. j.g. Joseph Kraut  
USS Kentucky (SSBN-737) (G)

Lt. j.g. Seth Krueger  
USS Louisiana (SSBN-743) (B)

Lt. j.g. Simon Lee  
USS Hampton (SSN-767)

Lt. j.g. Russell Lidberg  
USS Kentucky (SSBN-737) (G)

Lt. j.g. Timothy Lindsay  
USS Henry M. Jackson (SSBN-730) (G)

Lt. j.g. John Mcginty  
USS Pennsylvania (SSBN-735) (B)

Lt. j.g. Adam Mills  
USS Key West (SSN-722)

Lt. j.g. Alan Montera  
USS Seawolf (SSN-21)

Lt. j.g. Michael Peters  
USS Hawaii (SSN-776)

Lt. j.g. James Schulze  
USS Hampton (SSN-767)

Lt. j.g. Jeffrey Schwamb  
USS Connecticut (SSN-22)

Lt. j.g. Keith Skillin  
USS Alabama (SSBN-731) (G)

Lt. j.g. Jeremy Sylvester  
USS Nebraska (SSBN-739) (G)

Lt. j.g. Robert Szeligowski  
USS Maine (SSBN-741) (B)

Lt. j.g. Jason Williams  
USS Albuquerque (SSN-706)

## Line Officer Qualified in Submarines

Lt. Ryan Moore  
USS City of Corpus Christi (SSN-705)

Lt. Joshua Weiss  
USS Nevada (SSBN-733) (B)

Lt. j.g. Gary Adams  
USS Greenville (SSN-772)

Lt. j.g. Maksudul Alam Ali  
USS San Francisco (SSN-711)

Lt. j.g. John Baber  
USS Tucson (SSN-770)

Lt. j.g. Daniel Bellomo  
USS City of Corpus Christi (SSN-705)

Lt. j.g. Jeffrey N. Blackard  
USS West Virginia (SSBN-736) (G)

Lt. j.g. Brian Boeckmann  
USS Cheyenne (SSN-773)

Lt. j.g. Anthony Bracalente  
USS Charlotte (SSN-766)

Lt. j.g. Christopher D. Brooks  
USS West Virginia (SSBN-736) (B)

Lt. j.g. Brett Byrnes  
USS Hawaii (SSN-776)

Lt. j.g. Seth Cairo  
USS Asheville (SSN-758)

Lt. j.g. Kevin Campbell  
USS Seawolf (SSN-21)

Lt. j.g. Adam Carter  
USS Wyoming (SSBN-742) (G)

Lt. j.g. John Carter  
USS Kentucky (SSBN-737) (B)

## American Patriot Award Gala



Photo by Event Digital Photography, Inc.

Cmdr. Steve Hall (fourth from the right), now serving in the Manpower and Training Branch of OPNAV N87, attended the National Defense University Foundation's American Patriot Award Gala in November 2009. The 2009 award was presented to Gen. David Petraeus (third from the left) and the men and women of Central Command. Cmdr. Hall served in Iraq as the Brigade Electronic Warfare Officer for the 525th Battlefield Surveillance Brigade from August 2007 to May 2008.

## Golden Anniversary of Submarine Acoustic Trials

by LaToya T. Graddy, NSWCCD Public Affairs



Photo by Ryan Hanyok

Nelson Keech, Chief Engineer for Signature Analysis in NSWC Carderock's Signature Characterization and Analysis Division, unveils a mural commemorating the 50th anniversary of submarine acoustic trials for (left to right) NSWC Carderock Commander Capt. Chris Meyer; Program Executive Office for Submarines Executive Director Jack Evans; James King, head of Carderock's Signatures Department, and Bob Kollars, head of the Signature Characterization and Analysis Division.

The Ship Signatures Department of Naval Surface Warfare Center Carderock Division (NSWCDD) recognized the 50th anniversary of the first submarine acoustic trial in a Dec. 10 ceremony attended by more than 200 current and former managers and employees.

"For 50 years, the men and women of the Carderock Division have labored to advance the science and art of acoustic trials," said

NSWCDD Commander Capt. Chris Meyer. "Advances pioneered by these dedicated scientists, engineers and technicians in the areas of signature measurement, analysis and performance improvement contributed significantly to America's victory in the Cold War and continue to propel America's warfighting capability into a new century."

"U.S. submarines enjoy a distinct acoustical advantage over all other submarines, and that stealth is at the very root of their warfighting power," said keynote speaker Jack Evans, executive director for the Program Executive Office, Submarines (PEO Subs). "Carderock represents the world leader in developing stealthy technologies, and your efforts here give U.S. submarines their unique and unquestioned technological and tactical advantages."

USS *Skipjack* (SSN-585), best known for its revolutionary teardrop hull form, became the first submarine to undergo an acoustic trial in July 1959. Since then, the acoustic trial program has played a vital role in areas such as defining acoustic deficiencies, determining the quietest operational modes, setting future acoustic requirements, developing and assessing new hardware and procedures, developing and assessing retrofits for silencing, and refining tactics.

In the early years, radiated and self-noise measurements were obtained by personnel based at Carderock, and structureborne, airborne and long range detection measurements by those based at Annapolis. The Base Closure Commission later closed the Annapolis site and consolidated the acoustic trial organization at Carderock.

Lt. j.g. John Chester  
USS Tucson (SSN-770)

Lt. j.g. Andrew Cole  
USS Jimmy Carter (SSN-23)

Lt. j.g. James A. Colley  
USS San Juan (SSN-751)

Lt. j.g. Amando S. Cope  
COMSUBDEVRON TWELVE

Lt. j.g. Christopher Deigel  
USS Louisville (SSN-724)

Lt. j.g. Anthony Devoto  
USS Wyoming (SSBN-742)(B)

Lt. j.g. Philip Diette  
USS Tucson (SSN-770)

Lt. j.g. Johnathan R. Ferrell  
USS Rhode Island (SSBN-740)(B)

Lt. j.g. Michael Fritts  
USS Louisville (SSN-724)

Lt. j.g. Eric Gates  
USS Wyoming (SSBN-742)(G)

Lt. j.g. Clifford Gentry  
USS Rhode Island (SSBN-740)(B)

Lt. j.g. Ryan C. George  
USS Toledo (SSN-769)

Lt. j.g. Ryan Grundt  
USS Charlotte (SSN-766)

Lt. j.g. Richard Hall  
USS Wyoming (SSBN-742)(B)

Lt. j.g. Justin Hatton  
USS Alaska (SSBN-732)(G)

Lt. j.g. Christopher Heine  
USS La Jolla (SSN-701)

Lt. j.g. Michael Humara  
USS Louisville (SSN-724)

Lt. j.g. Daniel Huynh  
USS San Francisco (SSN-711)

Lt. j.g. Damiean Johnson  
USS Houston (SSN-713)

Lt. j.g. Roy Johnston  
USS Asheville (SSN-758)

Lt. j.g. Benjamin Jones  
USS Henry M. Jackson (SSBN-730)(B)

Lt. j.g. Joseph F. Leavitt  
USS Maryland (SSBN-738)(G)

Lt. j.g. Brian Lin  
USS Newport News (SSN-750)

Lt. j.g. Timothy Lindsay  
USS Henry M. Jackson (SSBN-730)(G)

Lt. j.g. Jeremy A. Lord  
USS Philadelphia (SSN-690)

Lt. j.g. Jason Lovegren  
USS Nebraska (SSBN-739)(B)

Lt. j.g. David M. Macedonia  
USS West Virginia (SSBN-736)(G)

Lt. j.g. Noah Mcburnett  
USS Houston (SSN-713)

Lt. j.g. Robin R. Mohabir  
USS San Juan (SSN-751)

Lt. j.g. Mark A. Obradovich  
USS West Virginia (SSBN-736)(G)

Lt. j.g. Jonathan Otten  
USS Michigan (SSGN-727)(B)

Lt. j.g. Benjamin Pitre  
USS Olympia (SSN-717)

Lt. j.g. Suravut Pornpanit  
USS Annapolis (SSN-760)

Lt. j.g. John H. Ray  
USS Maryland (SSBN-738)(G)

Lt. j.g. David Rickenbach  
USS Henry M. Jackson (SSBN-730)(B)

Lt. j.g. Benjamin M. Riley  
USS Newport News (SSN-750)

Lt. j.g. Martin E. Roschmann  
USS West Virginia (SSBN-736)(B)

Lt. j.g. Benjamin Sacramento  
USS Nevada (SSBN-733)(B)

Lt. j.g. Christopher Sampson  
USS Wyoming (SSBN-742)(B)

Lt. j.g. Matthew Schreibfeder  
USS Wyoming (SSBN-742)(B)

Lt. j.g. John Seebode  
USS Cheyenne (SSN-773)

Lt. j.g. Adam B. Shifflett  
USS Newport News (SSN-750)

Lt. j.g. William E. Sopp  
USS Maryland (SSBN-738)(G)

Lt. j.g. Jimmy Stokes  
USS Pennsylvania (SSBN-735)



- Lt. j.g. Alan Teele  
USS Topeka (SSN-754)
- Lt. j.g. Christopher R. Tockey  
USS San Juan (SSN-751)
- Lt. j.g. Andrew Valerius  
USS Columbus (SSN-762)
- Lt. j.g. Michael Wells  
USS Alabama (SSBN-731)(G)
- Lt. j.g. Dustin White  
USS Hawaii (SSN-776)
- Lt. j.g. Brian Wilson  
USS Jimmy Carter (SSN-23)
- Lt. j.g. Korey N. Witt  
USS Newport News (SSN-750)
- Lt. j.g. Bradley C. Zingone  
USS West Virginia (SSBN-736)(G)

Ensign Garry Ferguson  
USS Helena (SSN-725)

### Supply Officer Qualified in Submarines

- Lt. James Colgary  
USS Michigan (SSGN-727)(B)
- Lt. Jason Kim  
USS Key West (SSN-722)
- Lt. j.g. Chen Chang  
USS Henry M. Jackson (SSBN-730)(B)
- Lt. j.g. Jared Chenkin  
USS Ohio (SSGN-726)(B)
- Lt. j.g. Rafe Ferguson  
USS Key West (SSN-722)
- Lt. j.g. James George  
USS Michigan (SSGN-727)(B)
- Lt. j.g. Zachary Hope  
USS Seawolf (SSN-21)
- Lt. j.g. Neal Johansen  
USS Helena (SSN-725)

- Lt. j.g. John Kinman  
USS Buffalo (SSN-715)
- Lt. j.g. Matthew Minck  
USS San Francisco (SSN-711)
- Lt. j.g. Edward Nixon  
USS Seawolf (SSN-21)
- Lt. j.g. Jeffrey Rosser  
USS Tucson (SSN-770)
- Lt. j.g. Luke Vanbuskirk  
USS Kentucky (SSBN-737)(B)
- Lt. j.g. John Walker  
USS Asheville (SSN-758)
- Ensign Jimmy Foster  
USS Michigan (SSGN-727)(B)

- Ensign Christopher Mason  
USS Santa Fe (SSN-763)
- ### Medical Officer Qualified in Submarines
- Lt. Derek Lodico  
NSSC Pearl Harbor
- ### Special Recognition-Battle "E" Winners
- USS Charlotte (SSN-766)
  - USS City of Corpus Christi (SSN-705)
  - USS Georgia (SSGN-729)

- USS Jimmy Carter (SSN-23)
- USS Kentucky (SSBN-737)
- USS Key West (SSN-722)
- USS Maryland (SSBN-738)
- USS New Hampshire (SSN-778)
- USS Newport News (SSN-750)
- USS Ohio (SSGN-726)
- USS San Juan (SSN-751)
- USS Santa Fe (SSN-763)
- USS Scranton (SSN-756)

- USS Springfield (SSN-761)
- USS Topeka (SSN-754)
- USS Frank Cable (AS-40)
- Arco (ARDM-5)
- Devil Ray (TWR-6)

## North Carolina Builds the 'Right Spirit' for the Virginia Class



Photo by Petty Officer 1st Class Steven Myers

On Dec. 16, 2009, the *Virginia*-class submarine *USS North Carolina* (SSN-777) received Submarine Group TWO's second "Right Spirit" pennant for 2,000 days without a driving-under-the-influence (DUI) incident among her crew. SUBGRU TWO Commander Rear Adm. Paul Bushong presented the pennant to *North Carolina* commanding officer Cmdr. Wallace Schlauder at Submarine Base New London.

The *North Carolina* crew formed in 2004 as the submarine was being built. After more than five years, they have never had a DUI incident. The Right Spirit Campaign, initiated by the Secretary of the Navy in 1995, was designed to enhance fleet readiness by reducing alcohol abuse and related incidents.

## USS *Texas* (SSN-775) Reaches Pearl Harbor via the North Pole

by Petty Officer 2nd Class Ronald Guthridge, Commander, Submarine Force, U.S. Pacific Fleet Public Affairs



Photo by Petty Officer First Class Hamilton Felt



Photo by Chief Petty Officer Josh Thompson

(Left) Petty Officer 2nd Class Corey Stabenow inspects the deck of *Texas* while surfaced near the North Pole. (Right) *Texas* arrives in Pearl Harbor.

USS *Texas* (SSN-775), the second *Virginia*-class submarine to be homeported in the Pacific, arrived at Naval Station Pearl Harbor, Hawaii, on Nov. 23, 2009. Like USS *Hawaii* (SSN-776), which arrived in its namesake state in July 2009, *Texas* is assigned to Submarine Squadron ONE.

In transit from Naval Submarine Base New London, Conn., *Texas* became the first *Virginia*-class sub to operate in the Arctic, including time spent on the surface near the North Pole. While moored safely to the ice for over 24 hours, the ship conducted a very special re-enlistment ceremony for 12 crew members and a pinning ceremony in which one crew member received his submarine warfare qualification dolphins. Crewmembers also had

some down time to play touch football on the ice in the 5-degree weather.

Recognizing the importance of the Asia-Pacific region and the increased threat posed by the proliferation of submarines in the Pacific, the 2006 Quadrennial Defense Review mandated that 60 percent of the U.S. Navy's submarines be homeported in the Pacific by the end of 2010. With the arrival of *Texas*, 31 of the Navy's 53 attack submarines are now in the Pacific, with 18 of those 31 homeported in Pearl Harbor.

Commissioned Sept. 9, 2006, *Texas* is the second ship of the *Virginia* class and the first submarine named for the Lone Star State. Two battleships and a cruiser previously bore that name.

## Historic Visit to South Africa



Photo by Mark Canning, U.S. Consulate Cape Town

The *Los Angeles*-class attack submarine USS *San Juan* (SSN-751) pulled into Simon's Town, South Africa, on Nov. 4, 2009 for a series of first-ever, at-sea exercises with the South African Navy's submarine force. Two South African submarines, SAS *Queen Modjadji* (foreground) and SAS *Charlotte Maxeke* (background), met the American boat and escorted her to the Simon's Town Naval Base. Homeported in Groton, Conn., *San Juan* conducted the visit in the course of a regularly scheduled deployment to the 6th Fleet area of responsibility.

In addition to the exercises, *San Juan*'s commanding officer and senior crewmembers made office calls on South African military leaders involved in maritime safety and security and joined South African sailors in community-relations activities. They even engaged South African sailors in a friendly soccer match.

12<sup>th</sup> Annual

PHOTO CONTEST

sponsored by

THE NAVAL SUBMARINE LEAGUE



Some people think  
this is a beautiful  
work of art.



We think  
*this* is a beautiful  
work of art!

UNDERSEA WARFARE Magazine is looking for this year's top submarine related photos for the 12<sup>th</sup> Annual Photo Contest, sponsored by the Naval Submarine League. The best of the best will be published in the Fall 2010 issue.

Note: Entries must be received by July 15, 2010. However, time permitting, photos received shortly after the deadline will be considered. Photos must be at least 5" by 7", at least 300 dots-per-inch (dpi) and previously unpublished in printed media. Each person is limited to five submissions, which can be sent as JPGs or other digital photo formats to the e-mail address below. Printed photos can also be mailed to the following address:

Military Editor  
Undersea Warfare CNO  
2000 Navy Pentagon  
Washington, D.C. 20350-2000

or e-mail [underseawarfare@navy.mil](mailto:underseawarfare@navy.mil)

CASH PRIZES FOR THE TOP 4 PHOTOS

1<sup>ST</sup> PLACE \$500

2<sup>ND</sup> PLACE \$250

3<sup>RD</sup> PLACE \$200

HONORABLE MENTION \$50



## Submarine Museums and Memorials



Photo courtesy of San Francisco Maritime National Park Association

### USS *Pampanito* (SS-383) San Francisco, Calif.

For a quarter century now, USS *Pampanito* has been berthed at Pier 45 in San Francisco's Fisherman's Wharf neighborhood as a floating museum and memorial to World War II submariners. A *Balao* (SS-285)-class boat built at Portsmouth Naval Shipyard, *Pampanito* conducted six war patrols and received credit for sinking six enemy ships. Post-war research confirmed that she sank more than 27,000 tons of shipping.

On her third patrol, she discovered 73 British and Australian prisoners of war still clinging to wreckage from ships she and another boat had torpedoed several days earlier. *Pampanito* took them all on board, and her report brought other boats, which found 86 more POWs before a typhoon made further searching hopeless.

Decommissioned shortly after the war, *Pampanito* was "mothballed" at Mare Island, Calif., until the 1960s, when she was reactivated to serve as a Naval Reserve training platform. This did not require any modernization, so she remained as she had been in 1945. But after she was stricken in 1971, a considerable amount of equipment was stripped out to provide replacements for other submarines. In 1976, the Navy turned her over to the volunteer National Maritime Museum Association (now called the San Francisco Maritime National Park Association).

In 1982, the Association opened *Pampanito* to the public as part of the recently established San Francisco Maritime National Park. The most popu-

lar of the park's historic ships, she typically receives 110,000 visits a year. Her popularity is easy to understand, since the Maritime Park Association has brought her back almost to her 1945 condition, not only locating scarce replacements for most of the stripped equipment, but making many of her systems operational again.

The Association has also built a user-friendly Web site (<http://www.maritime.org/pamphome.htm>) that offers a thorough virtual tour of the sub. At each online stop, visitors can scan 360 degrees while listening to an informative audio presentation. They can also consult more detailed written descriptions of the major pieces of equipment on display. For submarine buffs, the Web site offers a detailed history of each *Pampanito* war patrol—and even links to original World War II training manuals.

After painstaking restoration, *Pampanito* looks pretty much the way *Cisco* (SS-290), another Portsmouth-built *Balao*-class sub, must have looked when she was lost on patrol in 1943. A poignant article in this issue recounts how the daughter of *Cisco*'s skipper, who never knew her father, pieced together his life and came to appreciate his character and sacrifice. Those who take the trouble to visit *Pampanito*, either in person or on the Web, will better appreciate the cramped and unforgiving vessels in which World War II submariners risked their lives to ensure the liberty of succeeding generations.

[www.maritime.org/pamphome.htm](http://www.maritime.org/pamphome.htm)