

# UNDERSEA

Q U A R T E R L Y

THE NEWSLETTER OF THE NAVAL UNDERSEA MUSEUM AND THE NAVAL UNDERSEA MUSEUM FOUNDATION



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## 2009 YOUTH DOCENTS



BACK ROW LEFT TO RIGHT: CRYSTAL JOSE, YASMIN EVERSON, TAYLOR LITTLER, NICHOLAS JOHNSRUDE, RILEY PASCHAL. FRONT ROW: JARIUS BROOKS, GERAN VOSS, ALYANNA CASTILLO, ALICIA PEEL, CHRISTOPHER VERGOS. INSET: BRYCE PEEL

The Youth Docents contributed over 1,000 hours of work to the Museum this summer. Our very well attended Wednesday activities were organized and managed by this group of enthusiastic young people.

The team had successful tests of two ROVs in late August with the able leadership of retired engineer, Rich Peel. Rich is also active in the Foundation ROV Project so he was able to "hit the deck running!" Susan Crawford helped Rich and the teens on test day at the pool.

The Youth Docents also designed an exhibit for the lobby. The exhibit focuses on the 50<sup>th</sup> anniversary of *Trieste's* record breaking dive to the bottom of the Marianas Trench. Steve Crowell spearheaded this effort and I think you will agree, the next time you visit, that the exhibit is very well done.

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From the President...

## FOUNDATION UPDATES



Bruce Harlow

The Foundation's ROV Program has received funding through the National Defense Education Program for continuation and expansion of this important education program over the next school year. The ROV Program has been proved successful in six high schools and eight middle schools in our area. I am proud of these outcomes which are a direct result of the work of Dr. Susan Crawford.

The museum staff and Foundation have joined forces to review the "best practices" at the museum to serve the public interest. I am pleased with the work that the Customer Advisory Group is performing. Captain Carter, one of our trustees, is the Foundation's representative on this committee and I look forward to hearing the recommendations and seeing the results of this committee's labors.

The recognition luncheon for museum and museum store volunteers was very well attended and very well deserved. It is most rewarding for the Foundation to be able to fund these events twice a year because we are indebted to you, the volunteers, for the hours of work you donate. Congratulations to all of you and thank you.

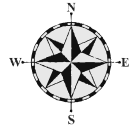
The Museum Store continues to do well even during these challenging financial times. People are taking advantage of the "stay-cation" and visiting local attractions. The quality and diversity of products offered in our store provide the visitor with the educational, historical and scientific background to continue to discover the undersea after their visit.

We all need to continue to remember our service men and women serving to keep our country free. Saying thank you **never** goes out of style.

**BRUCE HARLOW**

From the Director...

## C.A.G.



Bill Galvani

The Museum is developing a **new strategic plan** and in June formed a Customer Advisory Group (CAG) to give us a perspective from outside the walls on critical issues and the types of services and programs that our visitors want. The CAG helps the staff think about the future with new eyes and opinions and helps us avoid navel-gazing.

The CAG will meet five times between June and November, and the first three meetings (June, July, and August) are now complete. The CAG's charter is to:

- Evaluate recommendations
- Clarify mission and vision
- Analyze the environment
- Determine strategies
- Develop performance measures
- Endorse the final Strategic Plan.

Captain Larry Carter, former Commander of naval Undersea Warfare center Division Keyport, represents the Foundation on the CAG.

At the third meeting in late August the CAG endorsed a revised vision statement for the museum: **To make the Naval undersea experience relevant and accessible to all people.**

It also identified and prioritized five top critical issues:

- Use the internet and emerging technology to extend the reach of the museum
- Improve marketing, advertising, and awareness of the museum
- Complete the exhibits and include human and contemporary elements
- Develop a good website
- Improve contemporary collecting

I'm very encouraged about the help the CAG is giving the museum, and I believe when it concludes its work we will have a solid strategic plan that will guide the museum's future through 2012.

We are making good progress in our efforts to obtain Deep Submergence Rescue Vessel *Avalon* (DSRV 2), now located in San Diego. Submarine Development Squadron Five is arranging a lift of opportunity to bring *Avalon* here. This could occur

IN MEMORIAM

**JENNIE LOU CHASE-LUND** of McAllen, Texas  
 Aug. 28, 1933 - Aug. 28, 2009



Jennie left us on her birthday. She passed quietly while relaxing in her hot tub over looking Dyes Inlet.

She will be deeply missed by her husband Rich; daughters Jennifer, Angie and Valerie; sons Sam, Paul, Chuck and Greg; 10 grandchildren and 2 great-grandchildren.

Born in McAllen, TX, the fourth child of Artrude and Dr. Henry Barton, DDS. She grew up in Mt. Pleasant, Michigan. She attended Lindenwood College, second generation. She moved to Los Angeles, where she met LT. Warren Chase. They had Jennifer, Sam, Paul and Charles.

Due to MS, Warren was forced to retire and moved the family to Bremerton in 1964. He passed away in 1976. A few years later Jennie met Rich Lund and the two became a family of nine.

Continuing education was important to Jennie. She attended Central Washington University, where she earned her Master's Degree in Special Education, and a host of degrees, diplomas and certifications.

Rich and Jennie moved to Maryland in 1980, where she continued teaching and administrating at Southern Senior High. After Jennie and Rich retired, they moved back to Bremerton. She continued to be very active as Chairman of Peninsula Services, Naval Undersea Museum

docent, Lady of Elks, Daughters of the American Revolution, America Legion, VFW, certified "Master Gardeners", and worked as a substitute teacher.

She loved to travel, see new things and eat exotic foods. Spending time with friends and family was a priority. For everyone who had the pleasure to know Jennie, you will remember her bold, beautiful smile, her laugh that came from the soul, and a hint of a Texas twang. Her garden was always "fabulous," and the house was always "immaculate." We will all miss you very much, Jennie.

**A Sad Goodbye**

The Naval Undersea Museum lost a good friend with Jennie Lund's sudden passing in late August. Jennie was a vibrant, active, enthusiastic lover of life. She had been a volunteer at NUM since 1996. Among her many skills, Jennie was a master gardener. She and Dick were a big help getting all of our concrete planter boxes whipped into shape a few years ago. I recall one particular night when about five of us shoveled several loads of bark, dead headed all the rhododendrons, pruned and weeded. Jennie and Dick were our driving force and subject matter experts. They graciously joined us for a prime rib dinner at Whiskey Creek following all of our hard work. I think my most lasting memory of Jennie will be her marvelous smile! She was one of those rare people whose entire face seems to smile and her joy was infectious. The entire staff sends condolences to Dick and the rest of Jennie's family. We are truly sorry for your loss. We will miss her dearly.

**Personnel Directory**

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Meet Your Volunteers..

## FORMER LA POLICEMAN VOLUNTEER - MIKE PETERSON



Mike Peterson has been a volunteer at Naval Undersea Museum since February of 2006. Mike's first event was Discover E Day when we had 654 enthusiastic visitors. Mike was at the Raw Egg Olympics station! And he came back anyway! In fact E Day probably seemed tame in comparison to Mike's career of 35 years with the Los Angeles Police Department.

Mike and his wife of 35 years Ellen retired to Port Ludlow in 2005 in order to be closer to two sons who live in Seattle. A daughter lives in the San Francisco Bay Area. Mike and Ellen have 4 grands and they enjoy the opportunity to be active in the children's lives. In fact, our first encounter with Mike was at a volunteer potluck when he arrived with a dish to share and his barely 3-month-old granddaughter. The babe's Mom and Grandma had gone out for a spa day and Grandpa was in charge!

Mike also volunteers for the Jefferson County Sheriffs Department, the Olympic Music Festival and he is president of the road association in Pt Ludlow. This last he says is more of a headache than the other volunteer jobs.

Mike and Ellen enjoy travels to Europe, Canada and the Western states. Their latest adventure had them taking their bikes on the ferry to Victoria. They spent two nights at the Empress and biked around Victoria then they went 20 miles to Sidney. They had a great time on their 75 miles of biking. They learned to pack light for the saddle bags and to go out for dinner early so as to avoid a trip back to the hotel in the dark!

Mike and his grandchildren enjoy the family events we have here and he likes the camaraderie of the staff and other volunteers. Mike says he probably found us by the sign on the road but he's always been attracted to Naval and maritime places. In their Southern California days, he was a regular at the San Diego Maritime Museum. Mike especially enjoys the opportunity to tour naval vessels which is a perquisite for NUM volunteers. Mike says he always looks forward to his shifts here at the Museum. For her part, Ellen is an avid museum store shopper! We sincerely appreciate both of their contributions. We are delighted to have Mike Peterson as a front line Museum staff member! **JOYCE JENSEN**

CONTINUED FROM PAGE 3

### From the Director..

anytime in the next year, perhaps tomorrow, perhaps next summer. We'll be patient, plan for its arrival, and develop a plan for moving it indoors and interpreting it.

The museum's signature summer program, Wild Wacky and Sometimes Wet Wednesdays, concluded on August 26. The program, planned by museum educator Joyce Jensen, offered different maritime-related events and activities for children ages 4-12 every Wednesday in July and August. It built a loyal, repeat following, and visitation on Wednesdays routinely exceeded that of any other weekday by a significant margin. The program had a total of 2,672 participants for the

eight Wednesdays this summer, up from 1,670 for 2008.

Thank you to the Foundation for its support of the summer volunteer staff recognition event. Volunteers are essential to the operation of the museum and we cannot thank them enough. On August 21 we held a dinner for volunteers and spouses here at the museum. More than 130 people attended and enjoyed a buffet dinner of lasagna and side dishes and listened to music from the swing era played by Cascade, the big band from Navy Band Northwest.

**BILL GALVANI**



Book Review from a Guest Contributor. **LARRY TUCKER**, Museum Volunteer...

## **SUBMARINE STORIES. Recollections from the Diesel**

**Boats. Paul Stillwell, Editor. Naval Institute Press. April 2007. ISBN-13: 9781591148418. 295 pp.**

I became intrigued with books about submarines, in particular World War II submarine adventures, after meeting Captain Richard H. O'Kane during his visit to Mare Island in the early 1990's. All present were captivated as we listened to his personal account of the USS *Tang's* last war patrol and of his experiences as a prisoner-of-war and receiving the Medal of Honor. Now imagine how exciting 58 personal accounts can be! In *Submarine Stories*, author Paul Stillwell has provided 58 narratives and oral histories gathered over many decades by the Naval Institute. It covers the entire period of the United States diesel boat operation, from the pre-WW I days up to the last of the diesel submarines the USS *Dolphin*.

Every year there are fewer and fewer World War II veterans, another strong reminder that the ranks of what has been called our nation's greatest generation is growing thinner. Yet we know that their legacy remains intact and strong in various oral history projects. The U.S. Naval Institutes Oral History program represents the memories of hundreds of key Navy and Coast Guard personnel. The Institute has captured and preserved many interviews, hundreds by Paul Stillwell himself, covering the life story of each participant. Our museum library has many volumes of the Naval Institutes Oral History on the shelves.

Submarine design has always pushed the limits of existing technology. Inventors and engineers have incorporated new and untested machinery and equipment into their craft in order to create useful undersea vessels. Therefore success in submarine design has come to those naval architects who have combined innovation and experimentation with substantive experience or knowledge. Military planners during WW I quickly saw the potential military advantages of the stealthy and lethal capabilities of submarines. Previously, submarines were underwater boats that would submerge to hide and fight but mainly fought on the surface. *Submarine Stories* initiates the reader about the advancing technology of the era and also what it was like to serve aboard a WW

I submarine. The United States submarine G-4 was an experimental gasoline-electric powered boat with very unusual design and engineering problems. Sea trials for the G-4 may have been a disaster due to the difference between English and metric dimensions. G-4's design drawings were Italian with metric dimensions, but, due to US laws of the time, ships of war had to be built in the US with steel from our mills. American mills turned out the English equivalent to a metric thickness specification, and when there was a slight difference American mills turned out plates with the next larger thickness. That decision led to problems with the laws of physics, and a very unstable boat. Fortunately the weight differences were discovered and corrected early. Correction of the boats physics was accomplished by adding 72 tons of steel and concrete to the area of the keel. Another very interesting design "innovation" on the G-4 was the large wagon wheels permanently attached to the bottom of the boat. The submarine could sink to the bottom of a bay or river and, if bottom conditions allowed, propel itself forward on the wheels. These chapters have definitely wet my interest for additional study regarding WW I submarines!

Many of the chapters cover incidents and stories from WW II. Read about the sobering experience of entering Pearl Harbor just after December 7<sup>th</sup>, with devastation on battleship row and the stark differences observed at the relatively untouched submarine piers and fuel tanks. And one can never underestimate the importance of decoding the Japanese secret messages to locate the enemy fleet and convoy movements. The decoding officer on the USS *Drum* dutifully notified the Captain of a potential target location (secret information). But he also wanted a way to let the crew know about the likely event of a Japanese target availability near the *Drum*. He donned a gaudy yellow Hawaiian shirt and shortly afterward the target was located and sunk by the *Drum*. On the next patrol, when the decoding officer wore his gaudy shirt, the crew also donned

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## SUBMARINE STORIES

similar yellow Hawaiian shirts for good luck. I was especially interested in the article about how the USS *Barb* located Allied prisoners in flotsam from a torpedoed Japanese ship. The navigator effectively used a clipping from Naval Institutes Proceeding to locate the flotsam four days after the ship was sunk! The *Barb* and *Queenfish* successfully rescued 32 former prisoners-of-war. The Proceedings clipping was written by a Coast Guardsman, and discussed how to combine wave, current, coriolis effect, and wind to accurately locate the prisoner of war survivors from a sunken enemy ship. And then a most unusual story about the USS *Thresher's* third patrol. Due to a depth charge attack a silver-soldered joint in the number 1 torpedo tube was leaking air into the water – leaving a trail of air bubbles. Depth charging stopped abruptly and illogically since these attacks from the surface generally continued - seemingly forever. The *Thresher* crew heard a loud clanging on the starboard side and the noise traveled down the starboard side. When it reached the aft torpedo room, the sound stopped. The crew was uncertain of the source of this noise – until the boat ceased all forward movement. The enemy had dropped a large grappling hook which was stuck in the stern plane guard and the surface ship was slowly pulling the *Thresher* to the surface. I doubt that damage control protocols include being pulled to the surface by the stern. The crew readied the boat for possible loss to the enemy. Documents and code books were destroyed and sabotage charges were readied. The *Thresher* did successfully get itself out of this predicament and eluded the enemy.

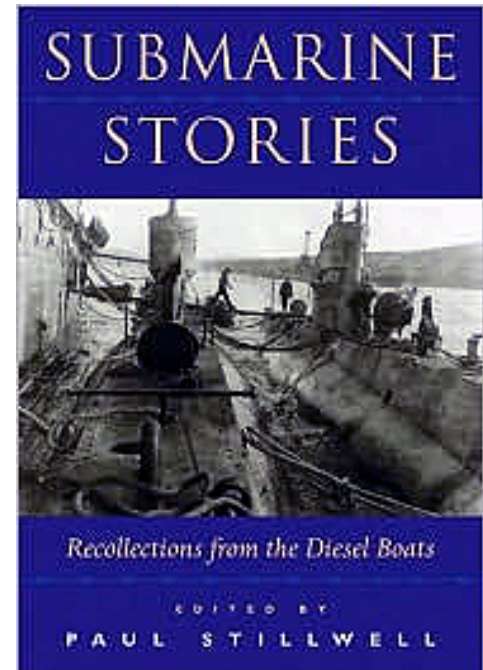
The post war- Cold War era also gets proper attention. Operations under the ice from diesel explorations up to *Nautilus* are covered by Dr. Waldo Lyons, the visionary scientist who foresaw the strategic and scientific need for future submarine operations in the arctic and pole regions. Read about the competition between *Guppy* submarines to see who can surface at the steepest angles (72 degrees was captured on film). Regulus missiles at sea are covered in two chapters, with one detailing operations during the Cuban Missile Crisis. The *Tang* class innovative but disastrous use of the GM “pancake” rotary diesel engines gets a chapter, complete with a nice picture of the hateful engines.

I found that the pace of the book was excellent, with different stories and viewpoints interwoven among the wide-ranging chapters. A careful selection of black and white photos accompanies each chapter—some of the men and some of the machines. All in all, an excellent book with stories that, in total, provide a superb history of the diesel submarine force.

The story of these boats—their technological evolution and tactical value—is also the story of the men who went to sea in them. The accounts illustrate the human aspects of serving in diesel boats: the training, operations in peacetime and war, liberty exploits, humorous sidelights, and the special feelings of bonding and camaraderie that grew among shipmates.

Paul Stillwell is former editor-in-chief of Naval History magazine and director of the U.S. Naval Institute’s oral history program. Paul is also the author of *The Golden Thirteen*, *Battleship Arizona*, and *Assault on Normandy*—all published by the Naval Institute Press. Our museum store currently has a limited supply of *Submarine Stories* – so don’t hesitate in getting your copy!

**LARRY TUCKER**



From the Curator...



Steve Crowell

## AN/CRT-1B: A SONOBUOY WORTH SEEING.....EVENTUALLY



One of the collection initiatives here at the Naval Undersea Museum is to assess our main content areas to see what we have and what we are missing. So far this year, we have brought in two museum consultants to look at certain collections and make recommendations on what we need to acquire. In July, Dr. James McEachern visited the museum to look at our sonobuoy collection. Being a senior scientist for Navmar Applied Sciences Corporation, Dr. McEachern is especially qualified to examine our buoys due to his sonobuoy research background. During his visit, he pored over our collection information and artifacts to see what we had. He was very impressed with it all. After completing the review, he proclaimed that we had the best overall collection of sonobuoys in the United States. Yet, there was something missing. Dr. McEachern wanted to see a sonobuoy listed on the artifact print out sheet. It was a buoy that he had not come across on the shelves or in our large and small storage areas. He wanted to examine this one. He wanted to look at its outside shell, transmitter, battery pack and hydrophone. He really wanted to see this "AN/CRT-1B sonobuoy". "This," he stated, "was a sonobuoy worth seeing."

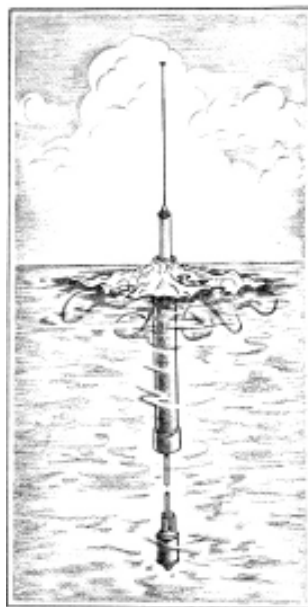
With the Atlantic Ocean shaping up to be an important strategic area, the U.S. Navy needed to develop technology that could

detect enemy submarines. Developed in 1944, the AN/CRT-1B sonobuoy was deployed in the Atlantic Ocean waters to pick up movements and sounds from German U-Boats. The "AN" stood for Army-Navy" (joint project) and the "CRT" stood for "Cryptographic Equipment Radio Transmitting". The "1B" represented what model type it was. The technology of this sonobuoy represented the latest advancements from the scientists at the Naval Research Laboratory.

This 1<sup>st</sup> generation sonobuoy weighed 15 pounds and was approximately 3 feet long. Due to wartime conditions, much of the buoy was made out of thick paper, wood and other available materials. Other materials used to seal the buoy for its short water life was adhesive tape, resin, flexible pitch and carbowax. Dropped by blimp or plane, the AN/CRT-1B would parachute into the ocean and begin to immediately pick up and transmit located sounds. Around the end of its 2 to 4 hours of operation, the carbowax plug would begin to dissolve. This designed action would permit water to enter the internal shell and sink the buoy. In

addition to its original identification, this early type of sonobuoy was also known as an "ERSB" or an Expendable Radio SonoBuoy. Between 1945 and 1950, 160,000 of the AN/CRT's were produced, deployed and eventually sunk in the Atlantic Ocean.

The most important part of this expendable "passive broadcast" sonobuoy was its transmitter. It had a one-watt FM modulated radio transmitter within the main shell. The transmitting range of this type of sonobuoy was up



AN/CRT-1 DEPLOYED  
IN THE WATER



AN/CRT-1  
HYDROPHONES

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From the Curator...

## **AN/CRT-1B: A SONOBUOY WORTH SEEING.....EVENTUALLY**

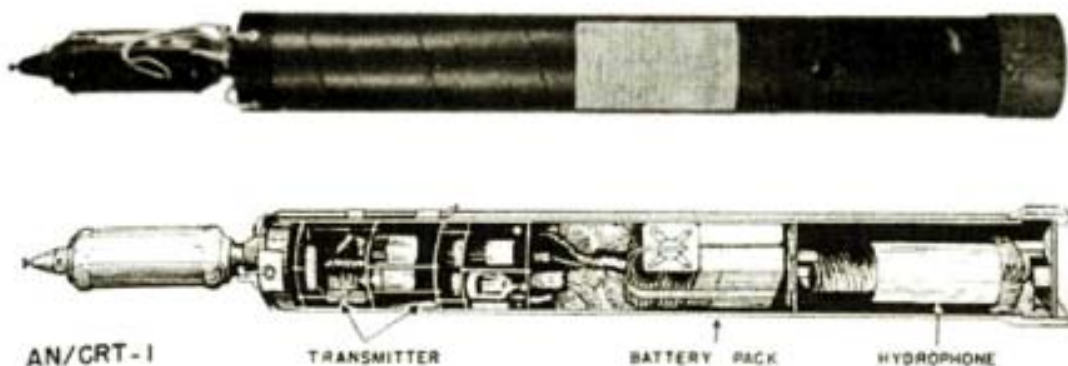
to 35 miles. The attached 39 inch antenna could send out signals to monitoring planes 5,000 feet in the air. The transmitting signal for this buoy was "aural" or by listening with the human ear. The crewman listening to the receiving signal, on a plane, had to make important decisions based on his ability to distinguish various underwater sounds coming in. Another important part of the buoy was its hydrophone. The role of the hydrophone was to "listen" for underwater sound. This type of microphone is best used in water due to its better ability to sense pressure waves (underwater sound) in dense fluids (ocean water). Both the transmitter and hydrophone had to receive power during its short life to function effectively. The battery assembly consisted of 4 basic 1.5 volt flashlight batteries. This small amount of power enabled the sonobuoy to function for a designed limited basis. If additional operational life was required, crewmen would connect and strap on an exterior tube of batteries to the outside shell compartment.

Although not seen as effective early on by higher ranking Naval officers, the early generation of sonobuoys, such as the AN/CRT-1B, slowly became more successful as more U-Boats were sunk. The Navy also made advancements in coordinated buoy pattern drops that helped in identifying enemy submarine locations faster. Eventually, technology

and military needs changed the use of this type of sonobuoy. The AN/CRT-1B would be eventually replaced by more advanced listening buoys. All production and use of the AN/CRT-1B stopped in 1950. The original sonobuoys had made their mark in World War II as they helped the U.S. Navy locate the formidable and elusive German U-Boat fleet.

Dr. McEachern wanted to see this early and rare sonobuoy model. He had never seen an AN/CRT-1B in all of his time as a sonobuoy research scientist. Because they were developed, used and sunk nearly 60 years ago, very few of the original AN/CRT-1B buoys existed. Where was this rare sonobuoy? On what shelf was it? Did it look like the ones that he had seen only in pictures? After a brief inquiry to where it was currently, a location was found. It happened just not to be here. This one of a kind and rare sonobuoy is on loan and display at a National Park location on the East coast. Dr. McEachern was disappointed with the results of its location but understood that this is what museums sometimes do - loan out their artifacts for display. When it does come back to Keyport, this sonobuoy will be worth seeing.....just ask Dr. James McEachern.

**STEVE CROWELL**



*AN/CRT-1 - CUT AWAY*



From the Exhibits Director...

## EXHIBIT PHILOSOPHY

The exhibit interpretive philosophy I guide myself with comes somewhat indirectly from the Naval Undersea Museum's mission and vision statements. Because my exhibit position also covers the Puget Sound Navy Museum I have included its mission statement as well:

- The mission of the Naval Undersea Museum is to collect, preserve, and interpret naval undersea heritage, science, and operations for the benefit of the U.S. Navy and the people of the United States.
- The vision of the Naval Undersea museum is to make the Naval undersea experience relevant and accessible to all people.
- The mission of the Puget Sound Navy Museum is to collect, preserve, and interpret the U.S. Navy's heritage in the Pacific Northwest from 1841 to the present for the benefit of the U.S. Navy and the people of the United States.

The exhibits branch and the museum strive to match thematically developed exhibit elements with the most appropriate interpretive techniques that engage visitors by focusing on the strengths, functionality and physical beauty of undersea technology machinery and thereby eliciting an immersive emotional response and awakening in visitors the inquisitive desire to further explore the history and impact of undersea technology. By this engagement we can direct our visitors to the museums "other" research tools: the library and archives; our broad and defined collection; and, above all else the subject matter expert core that is comprised of both staff and volunteers.

Selected exhibits are designed to replicate the environments that the object functions within and avoid the unnatural and confusing presentation of mixed objects out of context. Artifacts are chosen to give the best examples of the technology and support the concept of the technology and its application. The ultimate goal is for the exhibits to spark ambitious interest, investigation and appreciation of the subject matter. Several examples of recent and planned exhibits at both museums follow.

### At the Naval Undersea Museum

Introduction to Diving: presents the five reasons humans go into the sea with each reason supported by a large format photo and an object in a case. The area is physically presented in a stylized sea theme.

Navy Women Divers: is the short biographies of a select group of US Navy women divers. The theme of course nautical and technical, with artifacts and personal items from this select group. Each has a bio mounted on an underwater writing slate. The exhibit has supporting material that a visitor can take showing the qualifications of a Navy Diver. The exhibit is photo rich and each individual has a very defined space.

Submarine Technology upgrade: the purpose of this second installment to the popular submarine control room was the addition of electronic screen simulations, sound, and enclosure of the overhead. These enhanced the sensory experience and has become even more popular with visitors. In the Submarine Technology introductory hall we have added a display case with what would be described as submarine personal effects and a display of two types of submarine periscope head pieces on each side of the entry.

### At the Puget Sound Navy Museum

(the three following are in various stages of design) Currently being installed and readying for opening as you read this article the "USS John C Stennis": a permanent museum exhibit about the Nimitz Class aircraft carrier stationed at Navy Base Puget Sound. This is a most ambitious exhibit and will detail the lives of the men and women who serve aboard: their work and their workplaces. The exhibit will occupy 1,700 square feet on the second floor.

"Special Operations Submarines": a permanent museum exhibit about the U.S. Navy's special operations submarines. The exhibit will occupy approximately 682 square feet on the second floor.

Opening 2010

"Heritage of Excellence: The Puget Sound Naval Shipyard", a permanent museum exhibit about the history of the Puget Sound Naval Shipyard at the Puget Sound Navy Museum in Bremerton, WA. The exhibit will occupy approximately 1,924 square feet on the first floor. Opening 2010

To summarize the general guidelines of thinking the exhibits branch keeps at the forefront during initial design concept and follow-through are:



Ron Roehmholdt

*From Collections Management..*



Jennifer Heinzelman

## CONTINUING EDUCATION



This summer presented numerous times for me and my co-collections manager, Lorraine Scott, to attend conferences and continuing education programs. In May, I traveled to Hawaii to assist the Naval Historic and Heritage Command at the Pearl Harbor Naval Shipyard. We were tasked with going through two warehouses of ship moulds to determine what should be kept and transferred to NHHC and NUM. Unfortunately the moulds were infested with termites, spiders, and bird droppings. Out of the thousands of moulds, we were able to find over 300 that were in good condition and deemed of historical significance.

I also traveled to the Campbell Center in Mount Carroll, IL in June and attended their Care of Metals course. The Campbell Center is an institution for historic preservation. The course was taught by a metals scientist from the esteemed Canadian Conservation Institution, and an independent and much respected metal conservator. The class focused heavily on the scientific background of metals. I learned quite a bit on metal conservation. I came home with a healthy to-do list and a lot of information about what we can do to ensure optimal storage, exhibition and general preservation of our metal artifacts.

In July, I traveled to the Naval History and Heritage Command in Washington, DC. I spent two days with my counterpart Karen France, writing general collections management forms that will be used navy museum wide. These forms will also be

integrated into our collections management software for easy form population. I am very excited about the project. I also visited the Marine Corps Museum in Quantico. The US Navy and Marine Corps use the same collections management software. I met with the Registrar to discuss the forms and software applications.

During the months of September and October, the Naval Undersea Museum will be upgrading our collections management software KE EMu. Once this is complete, we are converting Puget Sound Navy Museum's current collections management software to KE EMu and integrating the two databases into one. The Naval History and Heritage Command will be hosting our combined database on their server.

Lorraine Scott represented the Naval Undersea Museum at the annual Washington Museum Association conference held June 10-12, 2009 at Washington State University. Networking with other museum colleagues, attending informational sessions, and listening to a keynote address by American Association of Museums' President Ford Bell made for a worthwhile trip. Of particular interest to her were sessions led by local objects conservator Dana Senge concerning appropriate environmental storage for artifacts, both behind the scenes and on exhibit.

Lorraine is currently on maternity leave and will be returning in early November.

**JENNIFER HEINZELMAN**

CONTINUED FROM PAGE 10

## EXHIBIT PHILOSOPHY

Within the exhibit space try to provide an open environment that encourages interaction and communication; how to optimize the presentation of artifacts and story to create highly desirable solutions; strive for effective exhibit design that captures attention, communicates the subject and boosts visitor interest; create exhibits that help translate the Navy's message into a clear, concise image; working with the staff be one team that works in concert to some or all of these stages: design, prep, print, build/fabricate, finish and inspect our exhibit (temporary exhibits developed in-house are generally covered by these); try to create a custom presentation that really fits the

richness of the story and artifact instead of being limited to just a few generic or commonly used options or techniques; provide our customers/visitors the best total experience; to make sure our designs are supported by a proven process (whether internal or contractual) of working together, an extensive knowledge of resources, and tailoring each presentation to meet the Navy Museum Northwest exhibit philosophy, its uniqueness, and its mission and vision statements.

A little bit of the Exhibits Philosophy and how I work toward successful exhibits (and not forgetting the team).  
**BEST, RON**



From the Science Education Alliance...

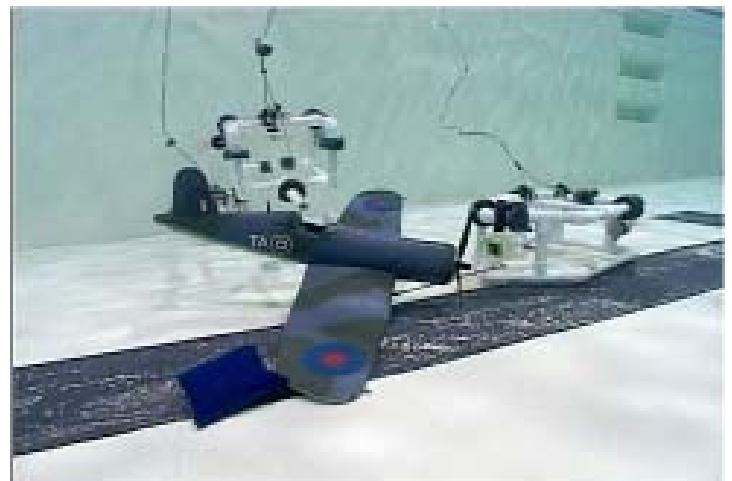
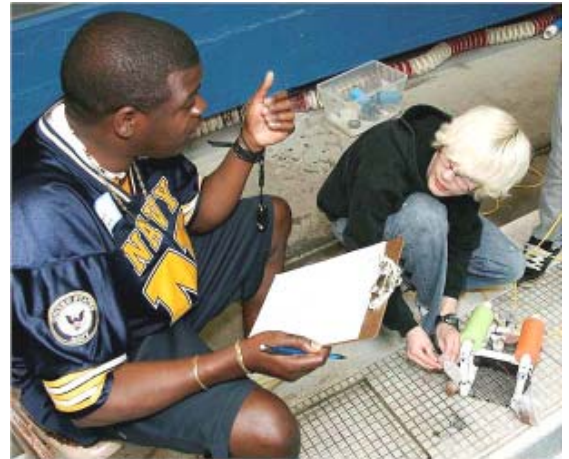
## ROV CHALLENGE PROGRAM

**Desired Student Effect:** ROV Programs (HS ROV Challenge and Sea Perch MS) will provide...

- Motivation to continue STEM preparatory courses in HS
- Awareness, interest, and knowledge of these STEM related fields – especially engineering
- Interest in and awareness of technical trade programs, vocations, and careers
- Self-confidence and interpersonal skills necessary for collaboration, communication and leadership

**Desired Workforce Effect:** Outcomes...

- Increase ready workforce personnel available to fill technical and skilled positions – especially engineers
- Students engage the tools, practice skills and use technologies that are fundamental in the maritime industry





*From the Museum Store...*

**MUSEUM STORE SHOPPING...  
A GOOD CAUSE AND A GOOD DEAL!**

We hope that everyone had a truly wonderful summer and that that transitions to a glorious fall! We have been busy in the store, buying, restocking and expanding our selections to bring you the best of our many product lines. To that end, Bettye Shifrin, Liv Galles and I spent two days in August perusing two entire floors of the Washington State Convention Center as well as the five floors of the Pacific Market Center in Seattle. Our feet were tired, (our pain is your gain!) but we found an amazing variety of gifts, jewelry and accessories, books and more for the museum store. Whether you are shopping for yourself, or need a gift, remember that your purchase with us helps support museum programs through the Naval Undersea Museum Foundation.



In a down economy, it is more important than ever to see your money go as far as it can. At the museum store, we pride ourselves on our reasonable prices and high quality of merchandise. Throw in the above mentioned benefits, and we become an even more attractive place to shop. Don't forget that the holidays are fast approaching, so come in and see what we have!



Some of our new buys include an expanded collection of children's books, pewter accented glassware that can go in the dishwasher and the microwave, toys and undersea plush items galore, fanciful glass items, home accents, collections of jewelry and more! Don't forget to stop in for retirement and change of command gifts, our selection of items is ever changing and expanding.

We are always looking for volunteers as well, so come and join a great crew! Have fun, enjoy a discount on merchandise and support the museum in its mission – it's a great place to volunteer!

We hope to see you soon,

**DAINA BIRNBAUMS**



*From the Schoolroom..*



Joyce Jensen

## **SUMMER WEDNESDAY PROGRAM WILDLY SUCCESSFUL**

Our Wednesday summer events set a record this year! For the eight Wednesdays we had a total of 2672 visitors or an average of 334 each day! Last year we had 1670 for an average of 239. Our NASA robots day was a big draw with 726 for that Wednesday. But even if we leave NASA out of the mix we still had a record breaking year. Once again we can take pride in knowing that many of our families came back week after week. Our teen volunteers did a terrific job of running this program. Next time you are in the Museum please take a look at the excellent exhibit in the lobby that this year's Youth Docents created. Please look for a photo of the teens on the front page of this issue.



## **DISTINGUISHED SPEAKERS SERIES**

On 19 September **PAUL STILLWELL**, editor of *Submarine Stories*, spoke to an interested audience at the museum. Following his talk, there was a reception and book signing in the Lobby.



## **UPCOMING EVENTS**

On 16 January 2010 at 2:00 PM, **ROBERT CARRIKER** who is a Professor of History from Gonzaga University will speak. He will talk about Lt Charles Wilkes' expedition to the Puget Sound in 1891. The US EX EX, as it was called, was part of an American science initiative. Seamen, artists, and scientists explored from Grays Harbor down the Cowlitz Corridor to Fort Vancouver. Additional outfits crossed the Cascade Mountains to visit Fort Colville and the Protestant missions on the Spokane and Walla Walla rivers. Wilkes' greatest achievement was to inform congress about the difficulties associated with the Columbia River Bar and the advantages of Puget Sound Harbors.

On 6 March 2010 at 2:00 PM, we will be celebrating **Women's History Month** with a concert by folksinger **LINDA ALLEN**. Linda's multi-media presentation will feature sing-a-long songs, images, stories and readings. Titled "Here's to the Women", the presentation will explore women's experience as they struggled for the vote and will take note of women's place in Washington's history.

## **Why not become a Museum Volunteer?**



The Museum and the Museum Foundation offer many opportunities to volunteer your time, your talents, your knowledge. Are you a people person? Become a **Docent** or work in the **Museum Store!** Do you love organizing? The **Library** could use your enthusiasm! Are children your specialty? **Family Day** and **Discover "E" Day** are just the ticket! For more information, contact **Daina Birnbaums**, [MuseumStore@wavecable.com](mailto:MuseumStore@wavecable.com), 360/697-1129 or **Joyce Jensen**, [joyce.jensen@navy.mil](mailto:joyce.jensen@navy.mil), 360/396-5547.

**MAKING THE DREAM COME TRUE**

I believe in the Naval Undersea Museum’s vision of the future and I want to help make it come true!  
I want to see the Museum complete with state-of-the-art exhibits, quality supporting facilities, and exciting educational programs.

Please sign me up for the following:

- \_\_\_ *Seat(s) in the Future* \$500 each
- Dedicated to \_\_\_\_\_
- Sustaining membership*
- \_\_\_ Foundation Associate           \*\$1000+
- \_\_\_ Patron                               \*\$500-\$999
- \_\_\_ Benefactor                         \$250-\$499
- \_\_\_ Builder                             \$100-\$249
- \_\_\_ Provider                            \$25-\$99

**Make checks payable to the Naval Undersea Museum Foundation (NUMF)**  
VISA, MasterCard, American Express, Discover accepted.  
Card # \_\_\_\_\_ Exp \_\_\_\_\_  
Signature \_\_\_\_\_

**Send to:**  
**Naval Undersea Museum Foundation**  
**P.O. Box 408**  
**Keyport, Washington 98345**

\*Donors of \$500 or more may participate in the Seat-in-the-Future program by dedicating a seat in the Jack Murdock Auditorium for each \$500 given.

- Other*
- \_\_\_ As a one-time gift

*Sustaining members receive regular quarterly newsletters, invitations to special events. The NUMF is a registered nonprofit 501(c)(3) organization. Gifts and memberships are tax-deductible for federal income tax purposes.*

Name(s) \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Email \_\_\_\_\_ Phone \_\_\_\_\_



**SUPPORT YOUR FOUNDATION, YOUR MUSEUM**

Have you ever wondered what to give your parents, your grandparents, your grandchildren, your friends for their birthday, for the holidays, to acknowledge their retirement, to celebrate their anniversary? A membership in the Foundation is an excellent gift in so many ways. The articles and information in the newsletter alone are well worth the membership cost. Many veterans and seniors appreciate the memories that the book reviews evoke.



The Foundation maintains a brokerage account so that you could choose to avoid capital gains by contributing stocks.

A Seat-in-the-Future is another wonderful way to memorialize loved ones, fallen comrades, friends, and significant figures in undersea history. A one-time gift of \$500 entitles the donor to dedicate a plaque on the arm of a seat in the Jack Murdock Auditorium to a person or persons of their choice. All contributions to the foundation go to support museum programs, such as the Science Education Alliance, Distinguished Speakers Program, permanent and temporary exhibit development, women’s history programs and programs for young people such as Kids Adventure, National Engineers Discover “E” Day, and Washington WaterWeeks. Contributions to the foundation are tax deductible. Donations for Seats in the Future should show how the plaque is to read. Send all contributions to **Naval Undersea Museum Foundation, P.O. Box 408, Keyport, WA 98345**



P.O. BOX 408  
KEYPORT, WASHINGTON 98345

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## Schedule of Events



Detailed information on some events may be available in other newsletter articles.  
All programs are FREE. Call 360/396-5547 with questions.

### EXHIBITS

Service and Sacrifice: The Trident Family - Pier Room  
Women Divers: Part of the Navy Team - Exhibit Hall  
The Trieste: Teen Docent Exhibit - Lobby

### NAVY BAND CONCERTS

Oct 18<sup>th</sup> - Cascade Big Band. 2:00 pm. Auditorium. FREE.  
Nov 15<sup>th</sup> - Clarinet Quartet and Trombone Quartet. 2:00 pm.  
Auditorium. FREE.

### FAMILY DAY

#### THE FIRST SATURDAY OF EACH MONTH



Families with children pre-school to age 12 are invited to Family Day the first Saturday of each month. Each Family Day will include an experiment or make-and-take project, a story and song time, and a tour of the galleries. The fun begins at 10:00 am and ends with the tour about 12:00 pm. Parents or a responsible adult must accompany the children.

