

American Submariners Inc.
4370 Twain Ave.
San Diego, CA 92120-3404



The Silent Sentinel December 2013

Our Creed and Purpose

To perpetuate the memory of our shipmates who gave their lives in the pursuit of their duties while serving their country. That their dedication, deeds, and supreme sacrifice be a constant source of motivation toward greater accomplishments. Pledge loyalty and patriotism to the United States of America and its Constitution.

In addition to perpetuating the memory of departed shipmates, we shall provide a way for all Submariners to gather for the mutual benefit and enjoyment. Our common heritage as Submariners shall be Strengthened by camaraderie. We support a strong U.S. Submarine Force.

The organization will engage in various projects and deeds that will bring about the perpetual remembrance of those shipmates who have given the supreme sacrifice. The organization will also endeavor to educate all third parties it comes in contact with about the services our submarine brothers performed and how their sacrifices made possible the freedom and lifestyle we enjoy today.

SUBVETS ANNUAL CHRISTMAS PARTY



Our Annual Christmas Party will be held at VFW Post 3787 located at 4370 Twain Ave, San Diego, 92120, on 21 Dec 2013.

Doors open at 1:30pm and dinner at 2pm

There will be door prizes and lots of fun for all!!

\$20 per person and you have a choice of Roast Beef or Cornish Hen with all the fixing!!

Please RSVP by Dec 10th (Base MTG), POC is Bill Earl at 619-887-0456 or email at dinkysan@yahoo.com.

Send Bill the money or pay at the door.

U.S. Submarine Veterans San Diego Base

Base Commander

Bob Bissonette
1525 Walbollen Street
Spring Valley, CA 91977
(H) 619-644-8993
(CELL) 619-251-7095
RBisson250@aol.com

Membership -- Change of Address

Ray Ferbrache
2955 lloyd St.
San Diego, CA 92117
arayz@san.rr.com
619-972-4474

Treasurer

David Ball
3804 Wildwood Road
San Diego, CA 92107-3750
619-225-0304
davidball@cox.net

Senior Vice Commander

Bill Earl
2251 Vancouver Ave
San Diego, CA 92104-5350
619-2804053
dinkysan@yahoo.com

Newsletter Editor

Mike HYMAN
3639 Midway Drive, B-320
San Diego, CA 92110-5254
(619) 223-9344
stamps@fortunesofwar.com

Assistant Editor / Photographer

Jack Kane
619-602-1801
jkane32@cox.net

Junior Vice Commander

Manny Burciaga
8406 Alado Place
El Cajon, CA 92021-2003
619-921-5877
mpburcia@co.net

Base Storekeeper

Phil Richeson
Phillip92071@aol.com
619-922-3230

Chief of the Boat/Middle East Liason

Fred Fomby
858-735-0026

Secretary

Jack Ferguson
jackmeboy@san.rr.com

Chaplain

John (Jack) Lester
6531 Cowles Mtn. Blvd.
San Diego, Ca. 92119
619-469-8805
lanabjack@cox.net

Assistant Chaplain

Russ Mohedano
8709 Dallas St.
La Mesa, Ca. 91942
619-697-5029
moecowboy@cox.net

The Silent Sentinel via Email

To all of my Shipmates and families who currently receive our Great newsletter via the mail who would like it sent via email or continue to receive it via mail, please fill out the form and mail it to the base or myself. We are trying to cut the cost of the newsletter down from \$3700 to about \$1900 a year. By receiving the Silent Sentinel via email will cut down the printing and mailing cost. The other plus to receiving it via email is you can save it on your computer and not have the paper lying around the house.

A subscription to the Silent Sentinel newsletter will be available to surviving family members via internet email, at no charge, upon notification of the Membership Chairman. If a printed hard-copy is preferred, via US Post Office delivery, an annual donation of \$5.00 will be requested to cover costs.

NAME: _____

ADDRESS: _____

CITY/STATE/ZIP: _____

EMAIL: _____

TELEPHONE: _____

Would like the SILENT SENTINEL emailed: YES _____ NO _____

Robert Bissonette
1525 Walbollen St.
Spring Valley, CA 91977-3748

USSVI Base Commander
c/o VFW Post 3787
4370 Twain Ave.
San Diego, CA 92120-3404

DUE TO LOGISTICS CONSTRAINTS, ALL INPUTS FOR THE SILENT SENTINEL MUST BE IN MY HAND NO LATER THAN *ONE WEEK* AFTER THE MONTHLY MEETING. IF I DO NOT RECEIVE IT BY THIS TIME, THE ITEM WILL NOT GET IN. NO EXCEPTIONS! MIKE

December Meeting

Our monthly meeting is held on the second Tuesday of the month at VFW Post 3787, 4370 Twain Ave., San Diego. Our next meeting will be on December 10, 2013. The post is located one-half block West of Mission Gorge Road, just north of I-8. The meeting begins at 7 p.m. The E-Board meets one hour earlier at 6 p.m.

***Check us out on the World Wide Web
www.ussvisandiego.org***

BINNACLE LIST

Al Strunk, Benny Williams

ETERNAL PATROL

Charlie Marin, Bob Coates

Submarine Losses in November

Originally Compiled by C J Glassford



ALBACORE (SS 218) - 86 Men on Board:
Possibly Sunk, on 7 November 1944, by Japanese Mine, Off the Northern Tip of Honshu :
“ALL HANDS LOST“

GROWLER (SS 215) - 85 Men on Board:
Probably Sunk, on 8 November 1944, by Japanese Destroyer, Escort Vessel, and Coastal Defense Vessel, Off Mindoro :
“ALL HANDS LOST“

SCAMP (SS 277) - 83 Men on Board:
Sunk, on 11 November 1944, by Japanese Naval Aircraft, and Coast Defense Vessel, in Tokyo Bay Area :
“ALL HANDS LOST“

CORVINA (SS 226) - 82 Men on Board:
Torpedoed and Sunk, on 16 November 1943, by Japanese Submarine, South of Truk :
“ALL HANDS LOST“

SCULPIN (SS 191) - 63 Men on Board:
Damaged, on 19 November 1943, by Japanese Destroyer, and later Scuttled, North of Truk :
“21 SURVIVED POW CAMP“

CAPELIN (SS 289) - 78 Men on Board:

Sunk, on 23 November 1943, by unknown Causes, Either by Japanese Aircraft, Minelayer, or Japanese Mine in the Northern Celebes, or perhaps a Hull Defect reported "Prior" to Her Departure from Darwin, Australia :

“ALL HANDS LOST“



Minutes for Submarine Veterans San Diego 12 November, 2013

1900 – Meeting of the Submarine Veterans Inc., San Diego Base was called to order by Base Commander Bob Bissonnette.

Conducted Opening Exercises:

Reading of Our Creed:

Pledge of Allegiance: Lead by Fred Fomby

Acting Chaplain Russ Mohedano lead us in prayer.

Conducted Tolling of the Boats for November.

Observed a moment of Silent Prayer.

Base Commander recognized past E-Board members and past Officers,

Secretary Ferguson announced 27 members present including new members David Martinez, Larry Dore, and Alfred Varela.

Treasurer Report: David Ball reported \$15,240 in Savings and \$991 in Checking. Total \$16,231.

Call for Committee Reports:

Binnacle List: Al Strunk, Tommy Cox, Frank Walker and Benny Williams.

Michael John Rodriguez is on eternal patrol.

Parade Committee: Joel Eikam reported 18 SubVets participated in the Veterans Day Parade and the Borrego Springs parade went well.

Membership: Ray Ferbrache reported 303 members. Deadline for renewal is 31 December and those not renewing will be dropped from rolls end of January.

Scholarship: Paul Hitchcock stated deadline for applications is 15 March 2014 and no extensions will be granted.

Number of scholarships and amounts will be decided depending on number of applications and moneys available.

Storekeeper: Phill Richeson reported that he sold more than \$400 worth of goods at two reunions and we have 2014 USSVI Calendars available.

Breakfast Committee: Fred Fomby reiterated that December 29th breakfast will be his last and a volunteer is required to assume his responsibilities.

Float Committee: No report.

1922 Base Commander called a break.

1939 Base Commander called meeting back to order.

Unfinished Business

The Base Commander thanked all hands and Senior Vice Commander Bill Earl for their efforts and attendance at Past National President and San Diego Base Commander Charlie Marin's funeral service.

The Chula Vista Veterans Walk had 125-150 walkers and Bob intends to have the San Diego Base more involved next year to assist the Chula Vista Veterans Home.

Christmas Party is 21 December 1:30-5pm with dinner at 2pm. See Bill Earl to sign up.

Paul Hitchcock volunteered to be Nominations Chairman for our Base elections.

Captain Thomas Ishee, Commander of Submarine Squadron Eleven is asking for Submarine Veterans to participate in

relating stories of their past service in San Diego for a Boat history to be part of the Maritime Museum.

New Business:

The E-Board has discussed purchasing new American and Base Flags to be used at parades and on the float. Prices are being obtained and membership will be advised.

Bob discussed the upcoming National Director elections and availability of Submarine business cards to aid in recruitment.

Good of the Order:

Joel told a story from a man in Mexico that claims to have the original WAHOO battle flag.

Leroy Bannack announced the Scamp Christmas party Dec 7th in the American Legion Post 365, Vista. Price is \$23 with cocktails at 5pm and dinner at 6pm 22 November deadline for signing up.

Ray Ferbrache reminded us of the oddity of todays date.... 11/12/13.

Looking for any original crew member of the Thresher SS200.

Submarine History articles are on back table.

Base Commander Bissonnette adjourned the meeting at 2011.

Jack Ferguson, Secretary

Sailing List for 12 November 2013

Fred Fomby	Jack Ferguson	David Ball
Bill Earl	Russ Mohedano	Bob Bissonnette
Manny Burciaga	Jim Harer	David Martinez
Jim Pope	Jack L. Addington	Dennis Mortensen
Bob Farrell	Chris Stafford	Phill Richeson
Roy Bannach	Tom Polen	Joel Eikam
Mert Weltzien	Larry Dore	Ed Farley
Don Mathiowetz	Mike Hyman	Warren Branges
Paul Hitchcock	Ray Ferbrache	Alfred Varela

Current News

“Plataginet, I will; and like thee, Nero,
Play on the lute, beholding the towns burn” (*Henry VI*, Shakespeare)

**U.S. Tests China-Claimed Waters
American Ships, B-52s Sent in for Military Exercises with Japan
Kirk Spitzer, USA TODAY, Nov 27**

NAHA, OKINAWA, JAPAN — An American carrier battle group and a flotilla of Japanese warships will arrive today near a vast stretch of ocean claimed by China in what is shaping up as a test of how Prime Minister Shinzo Abe and the United States will stand up to the challenge.

The joint U.S.-Japan exercises in the sea are a direct challenge to China’s claim. On Tuesday, the U.S. military said two Air Force B-52 bombers flew over the sea without notifying Beijing despite China’s demand that it be told if anyone plans to fly military aircraft over its self-claimed “air defense zone.”

The aircraft took off from Guam on Monday, part of a regular exercise, said a U.S. Defense official who spoke to AFP news service on condition of anonymity because he was not authorized to divulge the information.

China has been laying claim to nearly 1 million square miles of ocean known as the East China Sea, insisting that the sea’s energy resources and fisheries belong to China. Much of the ocean territory it claims is hundreds of miles from its shore, including waters off the coasts of Japan, Taiwan and South Korea.

On Saturday, China went further than ever, announcing it had designated much of the sea as an air defense zone it controls. The zone includes the Japan-held Senkaku Islands, a string of uninhabited islets that China calls the Diaoyus. The Chinese Defense Ministry said the zone was created to “guard against potential air threats.”

“China has been pushing and testing Abe since he took office and for the most part he has been passing,” said Brad Glosserman, executive director of the Pacific Forum Center for Strategic and International Studies, a think tank in Honolulu.

“This is a very dumb, very risky move by China,” he said. “If the People’s Liberation Army tries to interfere (with the U.S.-Japan exercise), there will be real problems.”

The challenge represents a test for Abe, a conservative party prime minister elected in 2012 who has vowed to shift Japan’s deferential military posture to a muscular stance that recognizes its right to defend itself.

On Tuesday, Abe said he would not recognize the Chinese air zone over the East China Sea or any of its claims to the Senkakus.

“We will take steps against any attempt to change the status quo by use of force as we are determined to defend the country’s sea and airspace,” Abe said.

For the United States’ part, Defense Secretary Chuck Hagel said the Chinese action represents a “destabilizing attempt to alter the status quo” and “will not in any way change how the United States conducts military operations in the region.”

To that end, the U.S. Navy arrived in force Tuesday off the coast of Japan for a complex exercise in which Japanese naval ships and U.S. fighter jets, warships and submarines will practice scenarios for a possible attack on Japan.

Sailing into the waters southeast of Okinawa on Tuesday to prepare for a long-planned exercise was the aircraft carrier USS George Washington, guided-missile cruiser USS Antietam, guided-missile destroyers USS Curtis Wilbur, USS Lassen, USS McCampbell, USS Mustin, maritime patrol and reconnaissance aircraft and a Navy submarine.

China issued a protest with Japan and the U.S. government over the exercises and opposition to China’s right to an air defense zone over the sea. Defense Ministry spokesman Yang Yujun said Japan’s complaint about the zone is “absolutely groundless and unacceptable,” according to Japan’s Kyodo news service.

Divers in Indonesia Discover WWII U-Boat in the Java Sea

Daniel Alden, Yachting and Boating World, Nov 25 Researchers in Indonesia have discovered the wreck of a WWII U-boat with the skeletons of its crew still aboard after following a tip-off from local divers.

The U-boat, believed to be U-168, was torpedoed in 1944 and sent to the ocean bed with at least 17 of its crew being taken to a watery grave along with it. These skeletons have been found trapped inside the submarine, preserved by the ocean bed, with some skulls still retaining teeth.

Bambang Budi Utomo, head of the research team at the National Archaeology Centre, which found the submarine, said: “This is the first time we have found a foreign submarine from the war in our waters.” He continued: “This is an extraordinary find that will certainly provide useful information about what took place in the Java Sea during World War II.”

U-168 was part of the Monsun U-boats; a group of vessels that targeted trade routes around the world to cut off supplies to the allied nations.

Alongside the skeletons, the team uncovered hidden WWII artefacts still emblazoned with the symbol of Hitler’s Nazi Party, the Swastika. Items including teacups, dinner plates and batteries were all found aboard, with some of the teacups suffering minimal damage.

The German war vessel is unlikely to be lifted off the seabed any time soon due to its vast size and the cost of the operation.

America’s Undersea Advantage is Eroding

James R. Holmes, The Diplomat, Nov 23

The Naval Submarine League held its annual confab last month outside Washington. Silent-service leaders warned – rightly – that senior commanders’ demand for subs far outstrips the supply. And the mismatch is getting worse. The sub force’s plight recalls the old Differential Equations problem in which the bathtub drain is open and the spigot’s open as well ... but not wide enough to keep the water level steady. The water slowly empties out. The question is, how fast?

Numbers of attack submarines are the most immediate problem. (Replacing the fleet of ballistic-missile subs threatens to suck the entire U.S. Navy shipbuilding budget dry in the coming decades, but that’s a story for another day.) The navy, that is, is constructing two Virginia-class attack boats per year, but it’s retiring Cold War-vintage Los Angeles-class SSNs even faster. The upshot: a slow drain on the SSN inventory.

Options are few. Congress and the navy can arrest the decline by stepping up new construction, extending the service lives of older units, or finding cheaper ways to execute missions currently entrusted to SSNs.

It’s improbable lawmakers will fund more Virginias amid straitened circumstances. Unmanned underwater vehicles may ultimately supplement the submarine fleet for missions such as anti-submarine warfare. But operational deployment of UUVs remains some ways off. The extent to which they can offset smaller SSN numbers, moreover, remains to be seen. Like all golly-gee new technologies, UUVs have to prove themselves. Which leaves stretching out the lives of Los Angeles-class boats. That’s the least expensive, lowest-risk, likeliest outcome for the near term.

Mass matters. Commentators, myself included, tout undersea warfare as a core advantage over competitors in the Western Pacific and Indian Ocean basin. And this is true on a boat-for-boat basis. But this gives rise to triumphalism, as though an American boat is like a Death Star that can zap entire enemy navies or merchant fleets. It also implies that numbers of boats are unimportant.

Wrong. Though virtually omnipotent, the Death Star has to close to firing range before cutting loose with its laser cannon. So does an attack boat. The skill and derring-do of submariners and the quality of their hardware count for little if they’re too far away or too scattered about to reach their targets.

And the striking range of U.S. SSNs is startlingly short when operating against surface shipping or enemy submarines. Attack subs can be armed with torpedoes, anti-ship cruise missiles, or land-attack cruise missiles. While American boats can fire Harpoon anti-ship missiles, they seldom carry Harpoons, let alone practice with them. Tomahawks meant for attacking targets ashore fill SSNs’ tubes.

There are opportunity costs to power projection. Sea denial and control are afterthoughts for navies obsessed with it. Skills atrophy. That indictment has fit the U.S. Navy for two-plus decades now, as we ancient mariners will attest.

Think about how optimizing the weapons complement for power projection foreshortens a boat’s range. Pick a point out at sea on your favorite nautical chart. You landlubbers should all have compasses. If not, cut a piece of string to measure 60 nautical miles (1 degree of latitude = 60 nautical miles). Pin one end of the string to your point on the map, and use the other end to trace a circle around that centerpoint. You’ve sketched the approximate area coverage for Harpoon engagements.

Now cut the string in half and do the same thing. That gives you a generous (very, very generous) estimate of our hypothetical SSN’s reach with Mark 48 torpedoes, the anti-ship weapons usually found in the fleet today. See what happened? The area of a circle varies by the square of the radius ... so halving the range of a ship’s armament cuts the area it can reach not by half but by a factor of four. Geometry is a harsh mistress. Subs outfitted with short-range weaponry must operate in tight proximity to one another to concentrate fire at vital points on the map. That means you need more SSNs – however sterling the quality of any given boat or crew may be.

Think about Corbett’s thumb rule for “elastic concentration” of a fleet, whereby ships disperse as much as possible provided they remain close enough to one another to render mutual support. SSNs armed with ASCMs can disperse far more widely than boats sporting torpedoes. Ergo, fewer boats can cover the same space. Weapons range is a force multiplier.

Recommendations? First: by all means, let’s build more boats. The undersea fleet is far too small. Let’s not console ourselves with the gadgetry being deployed at sea, or assume that such fudge factors will make up for brute numbers. Prospective adversaries are improving their material prowess as well. In particular, elusive diesel boats suitable for offshore picket duty — most equipped with ASCMs outranging the Harpoon — are proliferating. The U.S. Navy is not competing against a potted plant.

Second: let's restore Harpoons to SSNs' panoply pronto while replacing the Harpoon — a bird with very modest range and payload by today's standards — with something more lethal. One hopes a subsurface-launched ASCM — a successor to the long-ago, very-long-range Tomahawk Anti-Ship Missile — ranks high on the navy's priorities list. Again, combat reach ameliorates many problems.

And third: until the halcyon days of a big undersea fleet with a long arm arrive, commanders should consider where to position their boats for maximum effect. If the striking range of submarines is too short, all the more important to deploy them at what Corbett terms "focal areas" on the map. That could mean the origins and destinations of ships' voyages. Mainly, though, Corbett means straits and other passages where islands, coastlines, and underwater topography funnel shipping into narrow lanes — lanes that one or a few subs can oversee.

A submarine is lethal indeed within its range. Let's use geography to offset its limitations — while striving to overcome those limitations. Dive!

Gift For The Person Who Has Everything? A Personal Submarine

Larry Olmsted, Forbes, Nov 24

International Boat Show, which is the most important event of its type in the world, with the mega-yacht crowd coming from every corner of the globe to ogle custom Italian boats that can run over a million dollars — a meter — or easily into nine figures for an entire huge ship. While these boats were docked in the marina, inside the exhibit halls and convention center were thousands of accessories for the motor yacht crowd, from winches to fine art to furniture to fishing gear. Especially prominent were vendors of "toys" for mega-yacht owners such as personal watercraft, tenders and motorized inflatables, motorized surfboards, and the one that stole the show, Triton Submarines.

If you watch the Discovery Channel, chances are good you already know Triton — in the network's most watched special in history, the documentary *Giant Squid: The Monster Is Real*, their 3300/3 submersible was used by scientists to capture the first ever footage of the elusive creature.

Triton makes mostly two and three passenger "yacht based submersibles" with huge transparent bubbles around the cockpit for maximum viewing, looking more like spacecraft than a traditional cigar shaped submarine. They are regularly used by researchers in the arctic and deep oceans, run by tour companies in island destinations and chartered by active travel company for specialty trips. One owner is an underwater treasure hunter, since one "option" is a "manipulator" or highly maneuverable external pincer arm. But the majority of these are for fun, pure and simple, and go straight into private hands for deployment on mega-yachts as a fun way to get off the boat and explore the undersea world wherever you happen to be (they don't work as well in fixed locations, even if you have a waterfront home and dock, because they have to be removed from the water after each use and given their limited range and speed, if you don't keep changing locales it doesn't take long to see everything in your neighborhood). However, if you are a researcher or undersea lover without a mega-yacht, Triton also makes a lineup of support vessels specifically for moving and deploying its subs, for about \$3 million — less than 10 feet of custom high-end mega-yacht.

Triton makes no bones about this use of its machines and the colorful 70-page catalog boasts that, "When you transit the world's waters in your yacht, thousands of people have been there before you. However as soon you vent the ballast tanks on your luxury sub and dive beneath the surface, it is quite likely that you will experience a part of the ocean that no one has ever seen before. And you are doing it in perfect air-conditioned comfort and safety, quite possibly with a flute of excellent Champagne in one hand. Having a submersible aboard your yacht can make you a hero with family and friends..." The internal pressure of the submersible remains at surface pressure and never changes, so unlike SCUBA diving, you can dive deep or shallow for hours with no effects. Except maybe from the Champagne.

Triton is a subsidiary of 20-year old US Submarines, Inc., and every single craft is built in a state of art facility in Vero Beach, FL. The company's stated design philosophy is that "A truly memorable, visually captivating and immersive underwater experience is only possible in a submersible equipped with a transparent pressure hull." This explains the giant globe cockpit, which has to get thicker and stronger as depth increases and greatly adds to the expense.

The lineup spans 10 models for 2-8 passengers with maximum depths of 1000-5500 feet. There are currently about 400 deployed worldwide, and most popular is the entry level 1000/2 which can take two passengers to a thousand feet and sells for \$2.2 million. The most popular of the more expensive models is the all titanium 3300/3, three people, 3,300' at \$3.4 million. A new model, the 3600/3, is being designed specifically so it can reach the deepest spot on earth, the bottom of the 35,800' Challenger Deep trench, and will anchor a new reality show, *Going Deep*, scheduled for 2014.

So for the person who has everything, a personal sub is the new frontier. But for this holiday season you will just have to give a picture, as each Triton is built-to order (in any color you choose) and the process takes about a year. In the meantime, if you want to just drool, the entire colorful printed brochure is available online as a pdf download.

Submarine Veterans Travel to Hackettstown for Meeting With Comrade

Michael Izzo, DailyRecord.com, Nov 24

HACKETTSTOWN — When a 91-year-old Hackettstown-based World War II sailor couldn't make it to his monthly meeting of submarine veterans in Pennsylvania, his comrades decided to come to him.

After Walter Taverna's former submarine vets group, the U.S. Submarine Veterans of WWII, dissolved a few years ago after too many members passed away, he wasn't quite ready to give up the brotherhood.

Taverna decided to join the United States Submarine Veterans Inc., a group not limited to just WWII submarine veterans, or those that have seen active duty.

"Members have to show they're qualified submariners, entitled to wear Dolphins," said Taverna.

Dolphins are badges worn by qualified submariners that are similar to wings for a pilot, he said.

Taverna's enjoys his time with the group, the Lehigh Valley Base, which meets on the second Sunday of each month in Bethlehem, Pa., but he hasn't been able to attend a meeting since July.

"I'm 91 years old. My family doesn't want me driving," said Taverna.

He couldn't travel to the group, so this month on the second Sunday, Nov. 10, the group traveled to him.

"When they asked me if they would like it if they came to me this month I said, 'hell yes, I certainly would appreciate it,'" said Taverna. "I reserved the board room, made sure to get the coffee and my daughters baked food for everyone. It was a great meeting."

The organization has chapters across the country, but the 28-member-strong Leigh Valley-based group is closest to Taverna's home at Heath Village Retirement Community.

Taverna said meetings typically consist of readings of agendas and newsletters, but the most important part is the roll call.

At each meeting, they pass a list around of all the submarines and submariners that sank since the previous meeting.

"One person reads the name, says what happened to them, and passes the list on to the next person," said Taverna.

"Only 2 percent of the Navy is submariners," he said. "We have to recognize what they've done."

A storied career

Taverna enlisted in the Navy the day after the attack on Pearl Harbor, and reported to Annapolis, Md., as soon as he graduated college two years later in 1943, electing to join the submarine service.

"I chose submarines honestly because I was young and foolish," said Taverna. "I was getting married, the sea pay was good and I couldn't fly. But I've never regretted my decision."

He has been married to his wife Genevieve for more than 70 years, and his first child was born while he was at sea.

Taverna began in Key West, Fla., before heading north for submarine school in Connecticut.

There he put the U.S.S. Blackfin in commission and became a plank owner, a titled that signified his presence on the ship when it was commissioned.

He did five war patrols in the Pacific as a communication officer over the next two years.

During the first patrol, the Blackfin sank a tanker. The second patrol, a destroyer, one of 41 taken out by the U.S. during WWII. He received a combat pin with a gold star for those patrols, which he still wears today.

“The third patrol, that’s where we got our lumps. We got the bejesus knocked out of us. The ship was never quite the same after that one,” said Taverna. “The fourth patrol we sank mines. We had a contest to see who could sink the most and got 62.”

During Taverna’s fifth and final patrol, he received notice that the war was over, and the U.S.S. Blackfin went to Japan for the signing of the treaty.

“To make sure they pulled no tricks,” he said.

After that, Taverna was discharged in 1945, began life as a civilian, and joined the U.S. Submarine Veterans of WWII when it was created shortly after the war.

The group consisted of submarine crews who were on active duty during the war from Dec. 1, 1941 to Sept. 1, 1945, and had chapters across the country.

Life after service

Taverna began a 26 year career as a mechanical engineer, designing power plants along the east coast, before retiring to North Carolina because New Jersey was too expensive.

He moved to Heath Village in Hackettstown with Genevieve about five years ago after he broke his hip and his kids asked him to move closer.

“I’ve got kids in Virginia, Massachusetts, New York, a few in New Jersey, all along the east coast,” said Taverna.

In all, he has seven kids, 13 grandchildren, and “eight and a half” great grandchildren.

“One’s on the way,” he said.

Because of the large family and storied military career, he’s got more than enough to decorate two full walls of his living room. On one wall hang many pictures of his family and on the other, plaques and pictures from his time as sea. He’s got enough that those spill onto an additional wall.

Taverna was inducted as a lifetime member of the United States Submarine Veterans Inc. and a Holland Club member, meaning he’s been qualified in submarines for more than 50 years.

“Holland Club members are considered to be pioneers of our current submarine Navy,” said Taverna.

He was inducted into the Holland Club in 2008, sixty-four years after his original qualification in submarines, and is one of 12 Holland Club members in the Lehigh Valley Base.

Human Skeletons, Artifacts Recovered From WWII Nazi U-boat

Discovered Off Indonesia

Fox News, Nov 24

A World War II German U-boat believed to be an infamous submarine that sank several Allied vessels has been discovered off the coast of Indonesia after local divers tipped off officials to the wreck’s existence.

Agence France-Presse reports the wreck contains at least 17 human skeletons, as well a trove of priceless historic artifacts that could shed new light on the naval conflict that was waged decades ago in the Pacific theater.

“This is the first time we have found a foreign submarine from the war in our waters,” Bambang Budi Utomo, head of the National Archaeology Centre research team that located the sunken vessel, told the news agency.

“This is an extraordinary find that will certainly provide useful information about what took place in the Java Sea during World War II.”

Upon first inspection, Indonesian researchers told Agence France-Presse they believe the wreck to be the German submarine “U-168,” which records show sank numerous Allied vessels before a Dutch submarine torpedoed it in 1944 off the archipelago nation’s main island of Java.

The German news magazine Der Spiegel, citing the newspaper Die Welt, writes that only one of the six torpedoes fired by the Dutch submarine at U-168 from a range of 900 meters detonated.

Der Spiegel writes 23 of the 50 people on board U-168 at the time of the encounter perished in the attack.

The news magazine also quotes a second German newspaper, which wrote that the Indonesian wreck could also be that of the doomed U-183, also sunk in the Java Sea in April 1945. Both U-boats were reportedly part of World War II Germany’s “Monsoon Group,” which was tasked with intercepting enemy shipping in the Arabian Sea and Indian Ocean.

Already, divers have reportedly retrieved dinner plates bearing swastikas from the submarine, along with batteries, binoculars and a bottle of hair oil, although officials said it is unlikely the wreck will be raised anytime soon.

“There could be more people in there,” Budi Utomo told Agence France-Presse. “We are open to assistance from the German government to research this area of their history.”

US Panel: China Navy Power Growing in the Pacific

Matthew Pennington, Associated Press, ABC News, Nov 20

A congressional advisory panel sounded a warning Wednesday about China’s military buildup, predicting Beijing could possess the largest fleet of modern submarine and combatant ships in the western Pacific by 2020.

The U.S.-China Economic and Security Review Commission said China’s military modernization is altering the balance of power in the Asia-Pacific region and challenging decades of U.S. pre-eminence.

The commission advises Congress on the national security implications of the relationship between the two world powers.

The groups’ annual report also examined cyberintrusions from China, the trade and economic relationship with the U.S., and China’s global ties.

The primary recommendation is that Congress fund shipbuilding and increase the Navy’s operational presence region in support of the Defense Department’s goal to base 60 percent of its warships in the Asia-Pacific region by 2020, compared with about 50 percent currently.

That’s a priority of the Obama administration’s diplomatic and military rebalance to Asia after a decade of war in Afghanistan and Iraq.

The commission said it welcomes the policy, but added: “There is growing concern among U.S. allies and partners that the Department of Defense will be unable to follow through on its commitment to the rebalance due to declining defense budget and continuing security challenges elsewhere.”

The panel also recommended that the U.S. improve air and maritime capabilities of allies in the region.

Last year, the Chinese Foreign Ministry accused the commission of “indulging in Cold War mentality.” Beijing says it has no offensive intent, and says Washington of trying to contain it.

The U.S. far outstrips China in military spending, but in Asia faces a greater burden in fielding forces far from its own shores.

Rep. Howard “Buck” McKeon, chairman of the House Armed Services Committee, voiced concern that at a time when the U.S. military faces budget cuts, China’s military spending is increasing and its leaders want to increase combat readiness.

“Its current pace of military modernization shows that Beijing is developing the ability to project power and influence further abroad,” McKeon, R-Calif., told a committee hearing Wednesday.

Rep. Adam Smith, D-Wash., said that while the U.S. should monitor military developments in China, an adversarial relationship between the two powers is not inevitable.

“There is no reason that we should have China as an enemy,” Smith said. “We should certainly look for ways to work together.”

The report’s assessment of China’s naval capabilities draws on information from think tanks and U.S. naval intelligence. It said China is known to be building seven classes of vessels, including nuclear and diesel submarines, destroyers and other warships. It expects the naval modernization to continue for the “foreseeable future.”

China’s is also advancing its capabilities in space, which is viewed as critical because of the use of communication satellites for intelligence and modern warfare.

For the first time, there are public indications China may be developing the ability to target satellites at the high altitude used by the U.S. global positioning system and many military and intelligence satellites, according to the report.

But China described a May suborbital rocket launch it conducted as part of a high-altitude scientific experiment.

Aboard A WWII Diesel Submarine

Bob Caldwell, Capital Gazette, Nov 17

It was a typical day aboard the USS Trutta (SS421), a WW II diesel submarine homeported in Key West, Fla., but operating for a short six week stint in the Caribbean, providing “target services” to destroyers of the US Atlantic Fleet.

“Hours and hours of complete boredom interspersed with moments of sheer terror” were our watch words after more than 2 years if intense activity. From the Bay of Pigs fiasco to the Cuban missile crisis to the on-going possibility of daily confrontation with units of the Soviet submarine force, our crew was in absolutely top mental, physical, and fighting readiness. The fact that we were scheduled for R & R the weekend at the end of today’s exercise training, that we gave our “friendly foe” on the surface above us a little slack in order that they might successfully complete their intensive “Operational Readiness Inspection” (ORI)- i.e. “Kill us” and let them go home and we proceed to our weekend destination.

After submerging at 0800 that morning we had no communications with the outside world (“Run Silent, Run Deep”). The name of the game was for the destroyer boys to find us and then drop “small” hand grenades when they thought that they had succeeded. We would then acknowledge using the UQC (underwater sound telephone-nicknamed Gertrude). In the early afternoon the Destroyer reported that they tried to contact us to advise us that the President had been shot and to terminate the exercise. It was well after 1600 that they finally contacted us with the hand grenades and ultimately the UQC and notified us that the “THE PRESIDENT IS DEAD!”

The shock was instant. We surfaced immediately. The destroyer departed leaving us alone to “carry out your orders” which we didn’t have!

So we proceeded into Ocho Rios Jamaica and were graciously treated by the natives and many visiting tourists who were glad to see a US Submarine in an unbelievable moment in history.

DoD To Close Domestic Tricare Service Centers

Patricia Kime, Navy Times, Nov 14

The Defense Department will close its walk-in Tricare Service Centers in the U.S., a money-saving move that is part of the reorganization of the military medical system under the Defense Health Agency.

Tricare officials said Nov. 14 that the walk-in centers, which provide beneficiaries with face-to-face assistance on claims paperwork, enrollment changes, processing and more, were inefficient and underutilized.

After a year-long review, military health system leaders concluded that customers could be better served with a toll-free Tricare telephone customer service center or online.

“We were making beneficiaries come to us rather than bringing customer service to them. We are now re-engineering how we deliver service, and removing any requirement for beneficiaries to ‘walk in’ at limited, prescribed hours of the day to get their questions answered or problems solved,” Tricare spokesman Austin Camacho said.

Many centers are located within military hospitals and clinics, but some are in freestanding buildings on military installations or in the nearby civilian community. They often are staffed with one or two individuals.

According to data provided by Tricare, utilization rates at service centers have varied from eight to 3,000 customers per month. The cost of running a center ranges from \$30 to \$216 per walk-in customer.

“We saw that many Tricare Service Centers were seeing small numbers of walk-in customers each day. It didn’t make sense to continue this approach from a customer service perspective or from a cost perspective,” Camacho said.

Closing the centers will save a projected \$250 million over the next five years.

To accommodate additional customers, Tricare’s toll-free customer service call centers will be improved, to include adequate staff and technology upgrades, according to Camacho.

Tricare also will bolster its online capacity and provide mobile applications for “customer-friendly alternatives,” he said.

Overseas Tricare Service Centers will not be affected.

The changeover is likely to begin in spring 2014 but Tricare is still “refining” its plan, Camacho said.

SUBASE Commemorates 50th Anniversary Of Vietnam War

MC2(AW/SW) Kristina Young, The Dolphin, Nov 14

GROTON, Conn. – Sailors and civilians from Naval Submarine Base New London (SUBASE) joined local veterans at the base’s Navy Exchange (NEX) and Commissary atrium to commemorate the 50th anniversary of the Vietnam War, Nov. 7.

The event, co-sponsored by the SUBASE Commissary and NEX, was part of the Defense Commissary Agency’s (DeCA) participation in the Vietnam War Commemorative Partner Program.

In 2008, Congress enacted the National Defense Authorization Act, which authorized the Secretary of Defense to conduct a program to commemorate the 50th anniversary of the Vietnam War from 2012 through 2025.

“As we observe the 50th anniversary of the Vietnam War, we reflect with solemn reverence upon the valor of a generation that served with honor,” announced SUBASE Command Master Chief (SS) Jay Gladu, as he read the President’s Proclamation. “While no words will ever be fully worthy of their service, nor any honor truly befitting their sacrifice, let us remember that it is never too late to pay tribute to the men and women who answered the call of duty with courage and valor.

The tribute to Vietnam-era veterans unveiled the 50th Anniversary Vietnam War Commemoration Flag and proclamation which will be displayed at the entrance to the commissary.

"The Vietnam War has and will continue to have a great impact on our Nation," said Mary Bocchino, commissary officer. "This flag with be displayed in a place of honor at the commissary and we hope that every time a Vietnam War veteran and their family sees this flag, they will know that a grateful nation remembers, and does indeed thank and honor them"

The commemoration included distinguished guest speaker and Vietnam War veteran , John "Jack" Casey, who was recently inducted into the Connecticut Veterans Hall of Fame for his honorable service during the Vietnam War, as well as his significant lifetime contributions to other veterans and service members.

Casey took the time to reflect and speak about his experience during the war as a third class petty officer while serving some 368 days as a disbursing clerk at Naval Support Activity Danang.

"Even all these years later, I still see the young men going to war," said Casey. "I've been to so many funerals and it's the strangest sound in the world — hearing your own obituary.

...We take care of our own. That's the one thing I remember from the very beginning of the Navy. Like the chief says, "we provide the service," I still provide the service 45 years later."

While commemorating the veterans who served in the Vietnam War, Bocchino commended all veterans, past and present, who've contributed to the U.S. military's storied success.

"Every day, in the shadow of the Gold Star Memorial Bridge, hundreds of local residents and visitors pass by an imposing conning tower and the polished granite wall of honor that encompass the Submarine Veterans of World War II Memorial East," said Bocchino. "They are compelling visible reminders that the liberty and prosperity our Nation enjoys have been purchased. [Liberty and prosperity] purchased by the sacrifice and service of 48 million men and women, who since our Nation's founding, have donned the uniform and proudly stepped forward to defend our freedoms.

Life Aboard the Navy's Top Secret Cold War Submarine: The Disassembled NR-1 Vessel is Brought Back to Life For Exhibition On Its Dangerous Missions

Dan Bloom, Mail Online, Nov 13

NR-1 dived deeper than any submarine and had a claw for raking sea bed
It mapped ocean floor and sought fragments of Challenger space shuttle
Submarine measured just 140ft but held a crew of 10 men for a month
Even now Cold War crew are sworn to secrecy - and cannot tell their wives

The remains of a top secret tiny submarine that could dive deeper than any other vessel and was used in the recovery of the doomed Challenger shuttle have been put on display.

The NR-1 sub performed Cold War operations so classified that its 10-man crews remain sworn to secrecy to this day.

It had a claw to pick objects off the sea bed - crucial in the days when Americans and Soviets were tapping underground cables - and even went in search of fragments from the Challenger space shuttle, which exploded during blast-off in 1986.

NR-1 launched in Groton, Connecticut, in 1969, where it stayed for much of its time until it left service in 2008.

The top-secret sub was dismantled - but the U.S. Navy has now collected pieces of it for an exhibition in its home port.

Veterans who served aboard the tiny sub during the Cold War say it was one of the most fascinating briefs of their careers - but not even their wives know all the details.

Toby Warson, commander from 1970 to 1973, won a distinguished service medal for a 'hazardous military operation' in the Mediterranean code-named Raccoon Hook.

Yet he is forbidden to this day from telling anyone - even officers - what he did to earn it.

'I finally had to quit wearing the ribbon because when I walked into the officers' club, everyone asked how I got it, and I couldn't tell them,' said Warson, who lives in Camas, Washington state.

'They thought I was being cute. I wasn't being cute. I just didn't want to go to jail.

The custom-built, one-of-a-kind vessel carried no weapons, measured just 140ft and travelled at just four knots, but held ten men for up to a month at a time.

It was a pet project of Admiral Hyman Rickover, the 'father of the nuclear Navy', and contained a custom-built mini nuclear reactor which powered it as deep as 3,000 feet.

Once on the sea bed, it had wheels and lights to explore the ocean floor.

It was mainly a research sub, but also performed Cold War military missions which remain highly classified.

NR-1 missions which have been declassified include an undersea submarine-detection operation and mapping the ocean floor.

It was used in 1976 to recover an F-14 fighter which had rolled off the deck of an aircraft carrier with a newly-developed missile attached to it.

Yet the slow-moving sub had to be towed to sea by a surface boat to save time, and it was so small that the crew could feel every pitch and roll of the current.

The long-suffering men also had to survive on frozen TV dinners, bath once a week with a bucket of water and burn chlorate candles to produce oxygen to breathe.

Former commander Allison J Holifield said: 'Everybody on NR-1 got sick. It was only a matter of whether you were throwing up or not throwing up.'

Admiral Rickover - who bestowed NR-1 with a level of secrecy far above what was normal in the Cold War - wanted several of the submarines but was stopped by high costs.

Michael Riegel, a former commander at the Groton base who also served as an officer aboard NR-1 in the 1970s.

He was pictured five years ago with a model of the submarine, which was also a highlight of his career.

If NR-1's secrets were revealed, he said: 'Some will probably say "Gee, that wasn't out of the ordinary." Some will say "Gee, that was really slick what they did."

But if and when that will come is anyone's guess. For the former sailor, like everyone else, is staying tight-lipped about the U.S. Navy's greatest secrets.

Asia's Submarine Race

Kyle Mizokami, USNI, Nov 13

Last week's delivery of the improved Kilo-class submarine Ha Noi to the government of Vietnam was just the latest undersea-vessel acquisition of Asian navies. Asia is in the midst of a submarine buying spree, with most of the major powers planning substantial fleet increases over the next two decades. Two countries, Malaysia and Vietnam, have recently acquired their first submarines while a third, Thailand, is pushing to purchase its first submarines in the near future.

The trend to submarines reflects the desire of Asian countries to protect their recently acquired wealth and enduring economic interests. Much of Asia is dependent on open sea lanes to keep export-driven economies humming, and a recognition of the importance of sea power is driving a general naval expansion throughout the region.

Another, more ominous driver is the recent uptick in territorial disputes in Asian littorals, particularly those driven by China. China's claim of the so-called "Cow's Tongue" in the South China Sea brings it into conflict with the territorial claims of Taiwan, the Philippines, Vietnam, Malaysia, and Brunei. Meanwhile the Senkaku/Diaoyu islands in the East China Sea are claimed by China, Japan and Taiwan.

China

Fueled by a strong economy, the Chinese navy is making strides in development of a multifaceted submarine force. One goal of Chinese submarines is to create an anti-access/area denial zone up to what it refers to as the First Island Chain, consisting of the Kuril Islands, Japan, Taiwan, and the South China Sea. The chain represents the absolute minimum to defend the Chinese mainland.

The second goal would be to enforce China's claims on the East and South China Seas. Patrols and presence missions in the waters surrounding those areas would help press these claims.

The Chinese navy is replacing the single Xia-class (092) ballistic missile submarine with up to six modern Jin-class (094) ballistic missile submarines. Each Jin-class displaces 9,000 tons submerged and is equipped with a dozen JL-2 submarine-launched ballistic missiles. The JL-2 is estimated to have a range of 7,200 kilometers (4,475 miles) and capable of carrying up to eight nuclear warheads.

The three submarines of the Shang class (093) represent the second generation of Chinese nuclear attack submarines, the previous Han class having been a technical disappointment. Displacing 6,000 tons submerged, the Shang class features six bow-mounted 533mm torpedo tubes. Built with Russian assistance, only three ships were produced, suggesting the class was less than successful. Yet another class (095) is believed to be under development.

China also operates a range of diesel electric submarines. Nine submarines of the Yuan class (041) and the 14 of the smaller Song class (039) represent the indigenously produced fleet. Yuan-class ships displace up to 2,400 tons submerged, while the slightly smaller Song boats rate 2,200 tons submerged. Both are equipped with six bow-mounted 533mm torpedo tubes.

China also operates ten improved Kilo submarines purchased from Russia, and earlier this year placed an order for another four Lada-class subs. That latest order, despite production of the Yuan class, suggests dissatisfaction with the performance of the latter.

Russia

The Russian Pacific Fleet reflects the decline of the former Soviet navy's submarine forces, even more so than the rest of the Russian navy. All of the submarines of the Pacific Fleet were built in the 20th century, with a good number constructed in the 1980s.

Four Borey-class ballistic missile submarines will be assigned to the Pacific Fleet in the future, replacing the fleet's single Delta III submarine. Submarines of the Borey class displace 19,400 tons submerged and are equipped with six 533mm bow-mounted torpedo tubes and 16 SS-N-32 Bulava submarine-launched ballistic missiles. Development of the Bulava has been problematic, with nearly half of test launches ending in failure.

Four Oscar-class guided-missile submarines serve with the Pacific Fleet. Each displaces 14,500 tons submerged and carries 24 SS-N-19 anti-ship missiles. Torpedo armament is in the form of four 533mm and four 650mm bow-mounted torpedo tubes capable of firing SS-N-16 Stallion and SS-N-15 Starfish anti-submarine missiles, guided torpedoes, and Shkval supercavitating torpedoes.

The bulk of the Pacific Fleet's submarine force lies in its attack submarines—four nuclear powered Akula-I, each displacing more than 8,000 tons submerged. Armament consists of four 533mm and four 650mm bow-mounted torpedo tubes, capable of launching SS-N-21 Sampson land-attack missiles, SS-N-15 anti-submarine missiles, torpedoes, and mines.

Finally, there are seven Kilo-class diesel-electric submarines, including three improved Kilo submarines. The Kilo-class displaces 3,100 tons submerged, and features six 533mm torpedo tubes capable of launching either SS-N-15s or torpedoes. The ship can alternately carry up to 24 mines, or a mixture thereof.

India

India's submarine fleet, which faces both Pakistan and China, is in an increasingly precarious position. Indian submarines are growing older as plans to replace them become tangled in bureaucratic red tape, and both of India's potential enemies' submarine fleets grow larger and increasingly sophisticated.

India has launched its first ballistic missile submarines, the Arihant. Based on the Russian Akula nuclear attack submarine design, the Arihant-class features a 10-meter plug to accommodate four vertical launch silos equipped with K-15 Sagarika ballistic missiles. The 6,500-ton submerged submarine also features six 533mm torpedo tubes capable of launching torpedoes or Klub anti-ship missiles. At least three Arihant-class submarines are projected.

India also retains one Akula-I submarine, Chakra, in conventional attack submarine configuration. Displacing 9,100 tons submerged, torpedo armament is identical to the Arihant class. Originally built for the Russian navy as the Nerpa, it suffered from quality control problems and a 15-year construction period. The ship is currently on a ten-year lease to India.

In addition to nuclear submarines, India operates a fleet of ten Kilo-class Russian submarines, the oldest of which is 30 years old. One submarine, Sindhurakshak, exploded in port earlier this year and was a total loss. A plan to build six submarines of the Scorpene class—1,700 ton ships equipped with torpedoes and Exocet missiles—has been repeatedly delayed because of bureaucratic and technical problems.

Pakistan

Pakistan's sole adversary at sea is India. Pakistan maintains five submarines of the French Agosta class: two are of the original Agosta class built in the 1970s, while the other three are of the modernized Agosta 90B class. The three Agosta 90B submarines displace between 1,760 and 2,010 tons submerged, are equipped with four 533mm bow-mounted torpedo tubes capable of firing torpedoes and Exocet missiles. By 2014 all three will feature an air-independent propulsion system, making them among the most sophisticated submarines in Asia.

Japan

Japan recently declared an intent to boost its submarine fleet from 16 to 22 ships. Production of the Soryu-class diesel electric submarines continues with last week's launch of Kokuryu ("Black Dragon"). Eight Soryu-class submarines will be built, the last of which was laid down this year. At 4,200 tons submerged, the Soryu class is one of the few regional submarines to feature air independent propulsion, technology acquired from Sweden. Armament is in the form of six 533mm torpedo tubes capable of launching Type 89 homing torpedoes and Sub Harpoon missiles.

Rounding out Japan's submarine fleet are the 11 submarines of the Oyashio class. At 3,600 tons submerged, armament is identical to that of the Soryu class. It is not clear how Japan intends to grow its submarine fleet, but for the near future that fleet will likely include the Soryu class, the Oyashio class, and the three remaining ships of the Harushio class, 2,750 ton ships with armament identical to the other classes. The oldest Harushio submarine is only 19 years old, the average age at which Japanese subs are retired, but a time when diesel electric submarines in other navies are usually still in service.

Japan's submarine fleet will increase its ability to create an anti-access / area denial force of its own. The Chinese Navy has regularly sortied through the Miyako Strait, the shortest route between the Eastern Fleet's headquarters and the Western Pacific. Japanese submarines, backed up by surface and air assets, would make Chinese transit of the straits a difficult proposition.

Australia

Australia's submarine force lies in the six ships of the Collins class. At 3,300 tons submerged, the ships are theoretically some of the most advanced diesel-electric submarines in existence, with advanced sensors and excellent performance submerged. Six bow-mounted torpedo tubes are capable of firing U.S. Mk-48 ADCAP torpedoes and Sub Harpoon anti-ship missiles.

The Collins class has been beset with problems since the lead ship entered service. Software problems, hydrodynamic flow problems, cracked propellers, engine and gearbox seal problems, and periscope vibration have all contributed to a low operational readiness rate for the submarines. At one point in 2009 only one submarine, HMAS Farncomb, was rated capable of sea duty. That is expected to improve to four submarines capable of sea duty by early 2014.

In 2009 the Australian government called for replacing the six ships of the Collins class with a dozen submarines of an advanced design. The new design likely will be either an evolution of the Collins design or something new, and will be built in Australian shipyards. In the meantime the Collins class will continue to serve, with upgrades, until at least 2030.

Singapore

Sitting astride the southern approach to the Strait of Malacca, Singapore is in close proximity to one of the most important shipping lanes in the world. Singapore has two submarines of the Archer class, submarines originally built for the Swedish navy. Although up to 25 years old, the Archer class was extensively refitted, including the addition of air-independent auxiliary engines. Each Archer class submarine displaces 1,600 tons submerged and has six bow-mounted 533mm torpedo tubes and three bow-mounted 400mm torpedo tubes. The ships also are capable of carrying up to 22 mines in external portable containers.

Singapore additionally has four submarines of the Centurion class. Also Swedish in origin, the Centurion boats were built in the late 1960s but remain in excellent condition when retired. At 1,400 tons submerged, each packs four 533mm and two 400mm bow-mounted torpedo tubes.

North Korea

The North Korean economy did not adjust well to the fall of the Soviet Union, and its navy, the service with the lowest priority in terms of resources, has particularly undergone hard times. Since then North Korea has begun constructing submarines of less than 500 tons, one of which sank the Republic of Korea Navy corvette Cheonan in 2010.

Originally the mainstay of the North Korean submarine force, the 20 Soviet-designed, Chinese-built Romeo-class diesel electric submarines are slowly being phased out in favor of the Sang-O class of coastal submarines. Up to 40 Sang-O-class ships have been produced. The Sang-O class displaces 325 tons submerged, is equipped with four 533mm torpedo tubes, and can carry up to 16 mines. At least some ships of the class are unarmed infiltration submarines designed to ferry North Korean special forces. A lengthened version, the K-300, was identified in 2011.

North Korea also operates up to 10 midget submarines of the Yono class. At 130 tons submerged, featuring two 533mm torpedo tubes, it is believed to be the type of submarine responsible for the sinking of South Korean Cheonan.

South Korea

Like the rest of the Republic of Korea Navy, the submarine force is in a period of expansion and is expected to double over the next 20 years. The current force consists of nine Type 209 submarines, built in both Germany and South Korea. The Type 209s displace 1,300 tons submerged and are equipped with four bow-mounted 533mm torpedo tubes capable of firing torpedoes and laying mines. Some ships in the class are capable of firing Sub Harpoon.

In addition to the Type 209s, a force of nine Type 214 submarines is also under construction, with three completed. At 1,800 tons submerged the 214s are heavier than their predecessors and carry twice as many torpedo tubes, all of which will be capable of firing Sub Harpoon.

A future submarine program, KSX-III, envisions nine submarines of 3,000 tons entering service around 2020.

Taiwan

Taiwan has four aging diesel-electric submarines — the oldest of which are of World War II vintage. Taiwan for some time has expressed a desire to find a replacement, but has been unable to find submarine producing countries that are willing to defy Chinese political pressure. The only potential provider of submarines, the United States, does not build diesel-electric submarines.

Vietnam

In April 2009 Vietnam signed a deal with Russia for six new so-called “Improved Kilo” (Project 636) submarines for \$1.8 billion. The six diesel electric submarines will be the first Vietnamese submarines in service. Displacing 4,000 tons submerged, the Ha Noi class mounts six 533mm torpedo tubes capable of launching torpedoes or SS-N-27 (“Klub”) anti-ship missiles.

The first of the six submarines, Ha Noi, was delivered to Vietnam on 7 November. The last of the boats is scheduled for delivery by 2016. Up to 50 mines may be carried as an alternative to torpedoes and missiles, an important area-denial capability.

Indonesia

The Indonesian navy’s submarine inventory currently consists of two aging submarines of the German Type 209 class, Cakra and Naggala. The submarines displace 1,400 tons submerged, have eight bow mounted torpedo tubes, and the option to lay mines. Both are over 30 years old and despite repeated refits are currently out of service awaiting upgrades. Daewoo of South Korea was contracted to modernize Cakra, which was supposed to be completed by 2013.

Indonesia’s Defense Strategic Plan 2024 calls for a fivefold increase in the number of submarines over the next 11 years. Toward that end Indonesia has ordered three modified Type 209 submarines, to be built in both South Korea and Indonesia. The 1,600 ton vessels will feature eight 533mm torpedo tubes, capable of launching a mixture of torpedoes and mines. The submarines will begin entering service in 2015, with all three completed by 2018.

Malaysia

Malaysia recently completed purchase of its first two submarines, the Scorpene-class vessels Tunku Abdul Rahman, and Tun Razak. At 1,740 tons submerged, the submarines have six 533mm torpedo tubes, capable of firing Black Shark homing torpedoes and Exocet anti-ship missiles. The submarines are not fitted with an air-independent propulsion system, but the boat’s design makes an option for future installation.

The submarines were built by the French defense contractor DCNS and Spain’s Navantia. Tunku Abdul Rahman had problems early on with her cooling system and was unable to dive, but those issues are thought to have been solved.

The two submarines were purchased, along with training, for \$1.1 billion. Crews for the submarines were trained locally, on board the retired French navy submarine Quessant.

Thailand

Thailand does not own any submarines, but it is laying the groundwork for a future fleet. A submarine fleet headquarters at Sattahip Naval Base will be completed in 2014. Thailand has sent officers to attend submarine training in Germany and South Korea, and will also soon complete construction of a Submarine Command Team Trainer.

The Thai Ministry of Defense proposed purchasing six used Type 209 submarines from Germany in 2011, but the sale was canceled.

