

**American Submariners Inc.
Silent Sentinel
c/o VFW Post 3787
4370 Twain Ave.
San Diego, CA 92120-3404**



**Non-Profit Org.
U.S. Postage Paid
Permit No. 445
Chula Vista, CA**



The Silent Sentinel February 2008



Our Creed

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 towards greater accomplishment and patriotism to the United States of America

It is noteworthy for the future development of Chinese antisubmarine warfare that hydroacoustics has been called a "key point" technology for state investment.⁷⁴ The conventional wisdom has long been that the Chinese submarine force is focused entirely on the anti-surface ship mission. This assumption may have become outdated, perhaps especially after the PLA Navy received the last of eight new Kilo-class diesel submarines (and accompanying weaponry) from Russia in 2006. According to Professor Li Daguang of China National Defense University, these new Kilos have four missions: to blockade Taiwan, threaten carrier battle groups, employ land-attack cruise missiles as a "strategic weapon," and "form an underwater threat to the U.S. nuclear submarine force."⁷⁵ There is also preliminary evidence that China is moving toward deploying antisubmarine rocket weapons on its newest surface combatants.⁷⁶ This system is no "silver bullet," as the Chinese would still have severe, perhaps insurmountable, targeting and cueing problems, but successful acquisition and deployment of ASROC's would extend the engagement range of Chinese ASW weapons significantly. It is also worth noting that Chinese sources discuss "many openly published dissertations concerning underwater targeting for a homing depth charge."⁷⁷

To reverse the equation: How do Chinese naval analysts appraise American ASW, and in particular the submarine force's part in it? Clearly, the PLA Navy understands the overall centrality of SSNs in U.S. antisubmarine warfare. Thus an article in *Modern Navy* states: "The nuclear attack submarine...is the most effective tool for ASW."⁷⁸ However, some PLA Navy observers appear rather unimpressed by American efforts in ASW. The same official Chinese Navy journal observes: "The U.S. Navy actually has not had sufficient exercises in the [ASW arena] and also lacks experience."⁷⁹ In the same article, it is likewise noted that "conducting ASW in the littorals represents a special difficulty for the USN" and that "the combat advantage of the U.S. Navy nuclear submarine force in the littoral areas is far from obvious."⁸⁰ On this note, Campaign Theory Study Guide, a 2002 textbook written by China National Defense University scholars that draws on a variety of high-quality doctrinal publications, emphasizes that "nuclear-powered attack submarines have difficulty operating in close proximity to shore due to natural conditions."⁸¹ Another Chinese naval analysis suggests that "up to 2005, the USN has altogether 350 ASW platforms, just 11% of the number of [ASW] platforms it fielded in 1945. Moreover, many of these current naval and air platforms are not specialized for ASW, but more often are multi-mission platforms."⁸² This quantitative comparison across historical periods is crude in some ways, but there is no denying that inherent physical principles combined with the vast geographical area of the Pacific Ocean will likely keep ASW an asset-intensive mission, even in the age of "net-centric warfare."⁸⁴

The U.S. Navy Submarine Force-Level Trajectory

Chinese discussions of the American submarine force focus heavily on the continuing decline in its size. As one article from a People's Republic of China (PRC) naval-interest publication states, "The decline of U.S. submarine strength is inevitable."⁸³ Indeed, that a wide variety of Chinese naval sources share this evaluation suggests that this "decline" now passes for conventional wisdom within the PLA Navy. The Chinese naval community is likely paying close attention to internal U.S. debates, knowing that investments made (or forgone) today in submarine fleet modernization shape the future fleet.

Some Chinese assessments of the *Sea Wolf* program appear to point out indirectly the internal political tensions that hold down American submarine build rates now and perhaps in the future. One volume notes: "Although the *Sea Wolf*-class SSN gathers the era's most advanced technology in a single hull, and possesses beyond-first-class performance, the appraisals of 'Sea Wolf' by American public figures from all walks of life differ, with a roughly half-and-half split between praise and condemnation."⁸⁴

Taking the long view, Chinese naval strategists recognize that force levels have dropped drastically from Cold War levels. One source observes, "Since 1989, the U.S. Navy's nuclear-powered attack submarine [force] has been reduced by half."⁸⁵ A more recent Chinese naval press article estimates that "[U.S.] nuclear attack submarines will decline in number by close to 40%, eventually reaching 30 boats."⁸⁶ This calculation is roughly consistent with a projection in *Modern Navy* that anticipated a sustained build rate of one boat per year.⁸⁷ Rear Admiral Yang Yi, writing in 2006 on the future size of the American submarine force, quoted one American analysis as follows: "China already exceeds [U.S. submarine production] five times over.... 18 [USN] submarines against 75 or more Chinese navy submarines is obviously not encouraging [from the U.S. perspective]."⁸⁸

A Reputation For Mastery?

This article demonstrates that Chinese strategists are keenly interested in the U.S. Navy's submarine force. Thousands of articles have reviewed various aspects of American submarine capabilities, operations, and developmental trends. There is clear evidence that Chinese naval analysts have enormous respect for U.S. submarines, submariners, and their weapons. Certainly, China aspires to be a submarine power and hopes to emulate certain aspects of American experience. However, it is equally clear in these writings that the U.S. submarine force is seen as a key challenge in any military confrontation between Beijing and Washington. It is significant in that regard especially that Chinese analysts are increasingly drawing attention to, and seeking to remedy, their antisubmarine warfare deficiencies. The study also reveals an apparent assumption within Chinese naval analytic circles that American submarine force levels are on a downward trajectory.

U.S. Submarine Veterans San Diego Base

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CJ Glassford
(858) 483-7355

Treasurer

David Ball
davidball@cox.net
619-225-0304



Do not Miss Movement!

All submittals for the next Silent Sentinel must be received by the date indicated on page four. Entries received after the due date will be printed in the following month's issue, space permitting. Acceptable format for text files are TXT and DOC (not DOC1). Questions? Call me at 619-980-0846.

Mike, Editor

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.

NAME: _____

ADDRESS: _____

CITY/STATE/ZIP: _____

EMAIL: _____

Would like the SILENT SENTINEL emailed: YES _____ NO _____

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

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

Commander's Corner

Happy New Years to all of you and your families. I'm hoping and with all of your help, this coming year will be bigger and better for our base. We had a Great Christmas Party at the VFW. I wish more members could have been there. Thanks for all that could come!!!! I want to Thank all of the E-Board for their support, all the personnel that supported the Sunday Breakfast, Mike Hyman for our Newsletter editor, Mike Hacking for our website, Ron Gorence for membership, and all the other behind the seen folks like CJ, Dennis, Joe, and Charlie. Again Thank you all for the Great support.

This year we have a lot big things we are involved in like the 2009 convention preps, Kaps-for-Kids program, Partners in Education, and many other events. Be ready to lend a hand in helping out on these projects. We will need everyone's help to make all these events a huge success!!!!!!!!!! The more the Merrier!

With the help of a few volunteers, we put together 24 bikes in about 3 hours. I guess we are going to make a few kids happy for the holidays!! This is the last month for nominations for new officers except Base Commander. Please see Charlie Marin for your inputs. This is your chance to make a difference. Elections will be held at the Feb. meeting. Please be there to make your vote count.

Upcoming events

- Feb 2 -- Silent Sentinel Collate party, 9 a.m.
- Feb 12 --E-board mtg at the VFW 6 p.m.
- Feb 12 --Our monthly business mtg at the VFW 7 p.m.
- Mar 1 -- Newsletter Collate party at the VFW at 9 a.m.
- Mar 11 --E-board mtg at the VFW 6 p.m..
- Mar 11 -- Our monthly business mtg at the VFW 7 p.m.

Bob Bissonnette

SEE OR CALL MIKE HYMAN, 619-980-0846, FOR ALL YOUR SUBMARINE STORES NEEDS. ASK ABOUT THE SPECIAL OF THE MONTH. SHIPPING IS AVAILABLE FOR "ANY" SIZE ORDER. *Mike*

ALL INPUTS FOR THE FEBRUARY 2008 SILENT SENTINEL MUST BE IN MY HAND BY THE 22ND OF JANUARY! IT HAS TO BE RECEIVED BY ME BY THIS DATE. I CANNOT ACCEPT SUBMITTALS FOR THE FEBRUARY ISSUE ANY LATER, SO GET THEM IN EARLY. MIKE

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

February Meeting

Our monthly meetings are held on the second Tuesday of the month at VFW Post 3787, 4370 Twain Ave., San Diego. Our next one is on February 12th. The post is located one half block West of Mission Gorge Road, just north of I-8. The meeting starts promptly at 1900. The "E" Board meets one hour earlier (at 1800).

HAVE FUN AND HELP SUBVETS SAN DIEGO AT THE SAME TIME!

HELP COLLATE THE SILENT SENTINEL IN ORDER TO KEEP COSTS DOWN.

THE FEBRUARY 2008 EDITION ***SILENT SENTINEL COLLATE PARTY WILL BE HELD ON March 1st, 0900, AT THE TWAIN AVENUE VFW.***

BINNACLE LIST

Mike Hyman
Joe McGrievy
Chuck George
Larry Freske

Submitted by Base Chaplain, CJGlassford



SUBMARINE FORCE LOSSES JANUARY

SCORPION [Bell] (SS278) - 76 Men on Board:

Probably Sunk, on 15 January 1944, by Japanese Mine, in Yellow or East China Sea:
“ALL HANDS LOST“

SWORDFISH [Bell] (SS 193) – 89 Men on Board:

Possibly Sunk, on 9 January 1945, by Japanese Coastal Defense Vessel or Mine, Off Okinawa :
“ALL HANDS LOST“

SAN FRANCISCO [Bell] (SSN 711) - 127 Men on Board:

Struck a Sea Mount, on 8 January 2005, while Traveling Submerged at High Speed, South of Guam :
“ 1 MAN LOST “ – “ 23 MEN INJURED “

ARGONAUT [Bell] (SS 166) – 105 Men on Board:

Sunk, on 10 January 1943, by Japanese Aircraft, and Destroyers, Southeast of New Britain in the Solomon Sea:
“ALL HANDS LOST“

S –34 [Bell] (SS 139) - 43 Men on Board:

Accidental Signal Cartridge Explosion, on 11 Jan 1934:
“ 1 MAN LOST “

E – 2 [Bell] (SS 27)

Battery Explosion, on 15 Jan 1916, In New York Navy Yard:
“ 4 MEN LOST “

S – 36 [Bell] (SS 141) - 45 Men on Board:

Scuttled, on 20 January 1943, after running aground, In Makassar Straits :
“ NO LOSS OF LIFE “

S – 26 [Bell] (SS 131) - 46 Men on Board:

Sunk, on 24 January 1942, after Collision with USS (PC 460), In the Gulf of Panama:
“ALL HANDS LOST“



Submitted by C J Glassford

CHAPLAIN'S CORNER

Dear Bill and Family;

It is always with a Heavy Heart and great feeling of Loss when I learn of the Passing of a loved one, especially the Wife of a Submarine Shipmate.

Isabella Earl, Bill's wife, was born in Italy on 18 July 1941. She moved to Australia In 1950. Bill met his bride to be in Sydney Australia in October 1961. They were married in that city on 3 January 1964. They shared each others love for 44 years.

Isabella had been fighting the dreaded disease, Cancer, for over 20 years. This Disease was the cause of her demise. She must have been one very courageous lady. I'm sure that your love for one another was strong and that the memories of your life together shall live in your heart forever as well as in the hearts of all who were fortunate enough to have known her.

Please accept my sincere condolences and those of your submarine shipmates in your time of loss and remembrance of the life you shared with Isabella.

CJ Glassford
Chaplain
Submarine Veterans

UPCOMING EVENTS

“MONTHLY MEETINGS – SD BASE”

Tuesday = 12 Feb 2008 = E-board 6PM = Base Meeting 7PM
Guest Speaker - Captain Patton, Sub Base CO
Base Officers Elections

Tuesday = 11 Mar 2008 = E-board 6PM = Base Meeting 7PM

Tuesday = 15 Apr 2008 = E-board 6PM = Base Meeting 7PM

Tuesday = 13 May 2008 = E-board 6PM = Base Meeting 7PM

Tuesday = 10 Jun 2008 = E-board 6PM = Base Meeting 7PM

Tuesday = 08 Jul 2008 = E-board 6PM = Base Meeting 7PM

“OLD TIMERS LUNCHEON “

Friday = 18 Apr 2008 = Harbor Inn Sub Base Point Loma
10:00AM = Opening Ceremonies
10:30AM = Tolling of the Boats
12:00PM = Luncheon
13:00PM = Guest Speaker (Captain Patton)
14:00Pm = Closing Remarks

“SUBMARINE BIRTHDAY BALL “

Saturday = 19 April 2008 = Airport Sheraton Hotel SD
18:00PM = No Host Cocktails
19:00PM = Opening Ceremonies

- 19:30PM = Dinner
- 20:00PM = Cake Cutting
- 20:15PM = Guest Speaker – VADM “Big Al” Konetzni
- 21:00PM = Dancing
- 22:00PM = Closing Ceremonies

“ RIVERSIDE PARADE “

Saturday = 9 April 2008 = Riverside Community College
 07:00AM = Meet in Parking Lot
 * Details to be announced as received as to
 Parade position in lineup

(continued next page)

“ SAILOR OF THE YEAR AWARDS ”

This event is usually held in April at the Harbor Inn on the Point Loma Naval Base. At this time there is no available information as to time and place. Information will be forwarded as soon as it is received

“ MEMORIAL DAY OBSERVANCE ”

Monday = 26 May 2008 = Roncador Memorial, Sub Base SD
 10:00Am = Opening Ceremonies
 10:30Am = Tolling of the Boats
 11:00AM = Guest Speaker Remarks
 11:30AM = Wreath Laying Ceremony at Sea
 12:00PM = Refreshments

“ LA MESA FLAG DAY PARADE ”

Saturday = 31 May 2008 = Downtown La Mesa. CA
 09:00Am = Staging area (Same as last year)
 09:30AM = Float judging contest
 10:00AM = Parade kickoff

“ JULIAN 4TH OF JULY PARADE “

Thursday = 3 July 2008 = Downtown Julian, CA
 10:00AM = Assemble at Julian High School
 10:00AM = Float Judging Awards
 11:00AM = Parade Kickoff
 12:30PM = BBQ at American Legion Hall

PLEASE RETAIN A COPY OF THIS INFO
Submitted by CJ Glassford

“ USS ASHEVILLE SSN(758) CRUISE ”
10 DECEMBER 2007

On a clear sunny day here in San Diego. The USS Asheville conducted a one day underway cruise for 18 invited guests to be part of it's underway exercises off the coast of California. Joe McGrievy and Myself were part of that invited group. Unfortunately Joe could not make the event due to a pending Doctors appointment.

It has been forty one years since my retirement from the Navy, and it was great to be back among the worlds greatest submariners. I would have been proud to be a crewmember of this boat. The camaraderie and pride in being part of the Ships Company were evident in everyone I had the pleasure to talk with, including the Skipper, COB, Exec, and all aboard.

Part of the underway events was the presentation ceremony of the Silver Dolphins to the latest qualified enlisted man. It was my distinct pleasure and honor to do the pinning of the dolphins on his chest. It was a moment I shall never forget.

My thanks to the Commodore, Squadron PAO, and the Skipper of the boat for allowing me to be a part of these festivities.

“ Pride Runs Deep “
CJ

Candidates for Base Offices --SUPER TUESDAY THIS MONTH!

Senior Base Commander - C.J. Glassford
- Bill Earl
Junior Base Commander - Jim Bilka
Base Secretary - Manny Burciaga
Base Treasurer - Dave Ball

There will be another call for candidates at the January meeting. Voting for candidates will be conducted at the February meeting and installation of newly elected officers will be held at the March 2008 meeting.

Charlie Marin, Membership Chairman

JANUARY 2008 GENERAL BUSINESS MEETING MINUTES

1900 Meeting of the Submarine Vets of San Diego was called to order by the Base Commander.

Base commander read our Creed, all hands came to attention for the Pledge of Allegiance. The Chaplin's prayer and Tolling of the Boats lost this month of January.

All Hands observed a moment of Silent Prayer.

It was noted the all E-board members were present except for the Secretary.

Introduction of former base commanders and special guests were conducted by Junior Vice Commander

Charlie Marin reported 31 members present and 1 visitor. It was noted that the notes for the last meeting have been published and it there are any questions on the notes we will answer any questions. No questions on the meeting notes and notes stand as published.

Chaplain: Binnacle list: Mike Hyman

Parade report:

The next parade is in April in Riverside and in May for La Mesa Flag Day, more information to follow.

Membership Committee Chairperson report: DUES

The payment of annual dues are scheduled to be paid by 31 December.

To new members, if you did not get base patch please let me know.

Scholarship Committee:

The committee needs applications for children and or grandchildren of members to apply for scholarship funds. You can get additional information on The National Scholarship fund website on the internet. Base Scholarship funds are also covered on our website. A reminder that all applications must submitted by 01 April 2008.

2009 Convention Committee Chairperson:

Mike Hacking informed us that meetings are already being held and we need more participations and more committee members. Some things are just in need of people to take charge of doing these jobs. We need folks to volunteer for different jobs. On the website.... Link 2009 Convention has a basic schedule posted. We need to get coordinator... some input on side trips desired, such as padre game, zoo, tours to Sub Base, or a submarine tour. A dinner cruise.... The Town and Country Hotel will sponsor a welcome aboard party. This information has been presented to scamp base, and we have some names, but we need additional volunteers to set up a budget.

Base Commander stated the due to holidays our next breakfast, March 30....

Nomination committee: Charlie Marin

We need volunteers to run for offices that will be open next year.

Positions open are: Senior Vice Commander, Junior Vice Commander, Secretary and Treasurer.

1915 Base Commander call a Break for 50/50 drawing.

1925 Base Commander called to order:

Unfinished business:

Christmas Party was a great success and everyone had a lot of food and fun.

Still looking into the Kaps for Kids program.

San Diego Center for Children and putting together 24 bikes for the kids before Christmas was a great success and a big thanks from the center for our work and efforts.

New Business:

Mike Hyman is the newsletter editor, but Mike is very sick and needs help to publish the newsletter. We need some one to volunteer to help Mike and take some of the load. Jack Kane volunteered to assist Mike.

Good of the order:

VFW has reported that Submarine Patrol pins now makes you eligible to join the VFW. All you will need is a page 4 entry showing your patrol dates.

1945 meeting adjourned.

Sailing list:

RON GORENCE	DENNIS MORTENSEN	DICK WOLZ
CJ GLASSFORD	RAY FERBRACHE	MATT BAUMANN
JACK KANE	JIM TREGURTHA	JOHN GUINABEGER
FRED FOMBY	BILL EARL	RJ FULLEN
CHARLIE MARIN	DENNIS MCCREIGHT	GR PRINCE
DAVID BALL	TRANN WALKER	EVERETT MAUGER
BOB BISSONNETTE	JOE MCGRIEVEY	ROY BANNACH
JIM BILKA	HARRY MCGILL	
PAUL HITCHCOCK	JOE ACAY	
DON MATHIOWETZ	BOB OBERTING	
JOSEPH T. POWERS	ED FARLEY	
MIKE HACKING	TERRY WARNER	

Membership Corner: Dues, 2008

'08 Past due FOR **BASE & NATIONAL** (14): C Canterbury, G Carson, L Contant, J Crockett, Hanna, P Lustria, K Monast, S Pope, L Robensin, C Simmons, C Sultana, G Vander Voort, J Webb and D Woodward.

'08 Past due FOR **BASE ONLY** (19): W Bennett, T Branyan, J Cooney, L Curtiss, J Davison, G Evans, E Hall, D Hanley, W Hyde, M Jacobs, J Kikis, J. Maldon, R McGuire, C Mitchell, R Raaz, D Thompson, J Tregurtha, T. Vogt, and R Wilgeroth,.

'08 Past due FOR **NATIONAL ONLY** (5): Britt, Dewitt, Hiponia, Klein, Nelson.

. The above represents \$780 (past due) for our treasury

Wanted: Two deep thinkers with a couple of hours/month to spare. Call RonG for info regarding pay & benefits (stars in your crown, gratitude, fame, active pinging, etc.) and details; deep thinking is assumed if you have 'phins on your chest.

1. To follow up on membership leads, send out pre-written letters describing our purposes, dues, etc.;
Award Base Patch, Base coffee cup, etc. to new members. (Computer skills not a factor)
2. To help maintain membership database for errors or missing/changed data (and input updates if willing).

Commander McGrievy has volunteered to help start the new Membership Book with all members' data in one place; thanks, Joe.

Welcome aboard to our newest member, Clayton Waters, MMCS(SS) who qualified on the Boston SSN703 in 1986.

Keep safe,
RonG

The War Patrols of Harold "Buzz" Lee

[12/15/07 Ed note: Below is a typewritten letter from Harold "Buzz" Lee. I've taken the liberty of interspersing a couple of official of WWII submarine patrol summaries in bold print. History confirmed— by a man WHO WAS THERE! Buzz sailed on Nautilus: 1938-42, Aspro: 1943, Sabalo: 1944-5, and Torsk: 1947-8.]

Dear Ron Gorence:

5 Dec. 07

I have received all of your SILENT SENTINELS right on time and the last one with the llost and missing submarines was as close as it can get!

We, on the Nautilus, had just transferred one of our 'prospective commanders' and my radioman named SMITH whom we called Smitty for short to the CAPELIN and were lost almost immediately.

[USS Capelin (SS-289), on her second war patrol 17 November 1943, in the Molukka Sea and Celebes Sea, was to leave her area at dark 6 December— she was never heard from again.]

I was on the ASPRO later and made our first patrol on it to TRUK where the Capelin was bound.

[Aspro (SS-309): On her second war patrol north of Truk, on 15 February 1944 at 1121, spotted a large Japanese submarine, which was later identified as I-43.]

We picked up ping by a destroyer escorting a new Japanese submarine. He was perhaps the dumbest DD captain in the Japanese navy announcing to the world his presence. Our skipper was on a trim dive and that was our good luck and it was 1300 hours. We stayed about ten miles on the Jap's beam and moved into him on the surface at darkness.

[After a long surface pursuit, Aspro drew within range of I-43 and at 2223 fired four torpedoes. Her crew saw and heard an explosion, followed shortly by another. They then saw her target's bow rise as she sank by her stern.]

At exactly 2200 we moved into him and fired four at him from 1200 yards (point blank). The Jap had no radar and [we] had him cold. The first two torpedoes hit him and he sank in two pieces. The exec came down from the bridge and asked me for a depth sounding which I did. The enemy sub sank in 3½ miles of water and made terrible sounds as the sea pressure exploded his tanks. Our skipper went through "JAYNES FIGHTING SHIPS and discovered we had put ENDO **[Endo Shinobu, Commanding Officer I-43]** away forever.

We did not celebrate the sinking of the Jap sub - it was "but for the grace of GOD there go I" but we did have a couple shots of HENNESSY's Five Star as was ordered by our medic who controlled the liquor locker! By the way, it had a hangar forward of the bridge and held a spy plane with folded wings. Later we discovered the spy plane had been moving over Pearl Harbor all the way to Honolulu and got away with it!

[On 17 February, she underwent a depth-charge attack, but suffered no damage. Aspro torpedoed a freighter on 4 March, and the subsequent explosion shook the submarine violently. However, the Japanese vessel was merely damaged, not sunk.]

I was on watch in the radio shack on the morning of [June] 3rd when a coded message came in addressed to the NAUTILUS from NPM (Pearl Harbor). Our skipper and comm. officer deciphered it right along side of me in a special machine. It was a terrible moment! The skipper called all hands to the CREWS MESS and told us the largest armada ever assembled anywhere was coming straight at our position and would be exactly where we were the next AM about 1000 and I could write forever about the next morning (JUNE 4, 1942 **[Battle of Midway, June 4-7, 1942]**). And if you ask me I will reply. It has haunted me for 66 years!!

[At the Battle of Midway, USS Nautilus (SS-168) sank the aircraft carrier SMryk that had been previously damaged by aerial attacks. Nautilus had moved into attack position, and fired three torpedoes at the carrier from less than 3,000 yards. Nautilus reported flames appeared along the length of the ship as the skeleton crew which had been on board the carrier began going over the side.]

[Nautilus went to 300 feet as a prolonged depth charge attack commenced. At 16:10, the submarine rose to periscope depth. The carrier, burning along her entire length, had been abandoned. At 19:41, Nautilus resumed her patrol, having expended five torpedoes and survived 42 depth charges. Her commanding officer, Lt. Cmdr. William H. Brockman, Jr., was awarded the Navy Cross for his actions during this battle of Midway.]

[With the letter, Buzz included a copy of his invitation from Commandant, Naval District Washington, to attend a reception and dinner at the Army Navy Country Club, Arlington and the 65th Battle of Midway Commemoration Ceremony at the US Navy Memorial the following day, June 4, 2007]

My youngest daughter and my son flew with me to D.C. and we had a moment in our life never to be forgotten. I am 90 years old and there are only two survivors left — me being one of them.

At the dinner of about 200 people with my son on one side and my daughter at the other I was the fourth person asked to stand and be recognized. More later.

Buzz Lee

Base Finances

Checking Account Balance @ 11/30/2007 **\$ 1,488.35**

INCOME for DECEMBER 2007

Christmas Party	30.00
Booster Club	150.00
50/50	41.00

Membership	160.00
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Scholarship Income for December	0.00
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Total Income for December (per Bank Stmt) **\$ 381.00**

EXPENSES for December 2007

December Silent Sentinel Printing	150.85
December Silent Sentinel Mailing	49.53
USSVI December Membership	40.00
Christmas Party	230.00

Total Expenses for December (per Bank Stmt) **\$ 470.38**

Checking Account Balance @ 12/28/2007 **\$ 1,398.97**

ASSETS

Base Checking (12/28/07)	\$ 1,398.97
Base Savings (12/31/07)	9,318.36
Scholarship Fund Included in Base Savings	195.00
Convention Account (12/31/07)	3,977.74

TOTAL ASSETS **\$ 14,695.07**

U.S.S.V.I. - BASE FINANCIAL REPORT - FYE DECEMBER 31, 2007

Base: San Diego
 Treasurer: David Ball
 Telephone #: 619-225-0304
 Email Address: davidball@cox.net

Line		
1	Cash on Hand, January 1, 2007	13,966.78
	Money In	
2	Revenue - Base Dues	4,212.00
3	Revenue - National Dues Life	0.00
4	Donations Received for Base	175.00
5	Donations Received for Charitable Foundation	0.00
6	Interest & Dividend Income	25.25
7	Money From National or Other Bases	0.00
8	Revenue - Events	1,412.00
9	Revenue - Fund Raising	684.00
10	Revenue - Other	2,602.00
	Total Receipts (Money In)	9,110.25
	Money Out	
11	Dues Paid to National	1,470.00
12	Other Payments to National	0.00
13	Payments to Charitable Foundation	0.00
14	Payments to Boat Sponsorships	125.00
15	Amounts Paid to Other Bases	0.00
16	Donations made (not to National)	0.00
17	Base Memorial Expense	0.00
18	Base Operating Expenses	1,946.00
19	Base Meeting Expenses	0.00
20	Base Sponsored Scholarships	1,000.00
21	Expenses - Events	1,460.00
22	Expenses - Fund Raising	213.57
23	Expenses - Other	2,167.00
	Total Expenses (Money Out)	8,381.57
24	Net Change between Money In and Money Out	728.68
25	Cash on Hand, December 31, 2007	14,695.46

Chinese Evaluations Of The U.S. Navy Submarine Force

By Gabriel Collins, Andrew Erickson, Lyle Goldstein and William Murray, *Naval War College Review*, January 2008

The U.S. Navy submarine force has set the standard in undersea warfare for at least half a century. America's submarines made a vital contribution to victory in the Second World War, and they formed an elite force of truly innovative capabilities during the "Cold War at sea" with the Soviet Navy. Since the end of the Cold War, the submarine force has been a leader among U.S. military war-fighting communities in transforming itself to remain relevant against militant Islamist extremism and other emerging threats.

In such missions, the submarine force conducts strategic deterrence, intelligence and surveillance, extended-range land attack, and insertion of special forces, in addition to forming the essential backbone of the Navy's mission of sea control – the all-important, enabling task of maintaining command of the seas for the U.S. armed forces. With the launch of the first of the Virginia class in 2003, the Navy's position at the forefront of global submarine forces was set for the foreseeable future.

Perhaps partly inspired by the great successes of the U.S. submarine force, navies around the world have invested heavily in undersea warfare, especially in submarine capabilities. China stands out among these as an emerging submarine power. Over the last decade, Beijing has been building four different classes of boats while importing the Kilo-class diesel submarine from Russia in large numbers. Indeed, China's intense focus on undersea warfare has led some to speculate that a transpacific rivalry is already under way, at least with respect to submarine capabilities. As policy makers in Washington grapple with the challenge of China's rise, therefore, it may be wise to consider how Beijing is approaching its evolving naval strategy dilemmas. This article examines Chinese views of the American submarine force. As that submarine force constitutes one of the most vital elements of Washington's overall strategy for establishing and maintaining sea control in times of conflict, Beijing's assessment of those capabilities may be critical to uncovering the future evolution of this nascent rivalry.

More specifically, then, this research was undertaken for three reasons:

- The U.S. Navy submarine force is thought to represent a key capability for conflict scenarios involving China.
- This part of the U.S. Navy has undertaken major efforts at transformation within a new geostrategic and technological environment.
- The American submarine force represents a rather well-defined warfare area and thus lends itself to a bounded research effort.

Over the last decade, there has been an explosion of publishing in China on all subjects, including strategic and military-technical research. Thus, there are at least five serious journals devoted to naval warfare and dozens of more technically oriented journals.¹ In this project, well over a thousand Chinese articles were surveyed, of which approximately 150 were judged worthy of closer scrutiny and analysis by the research team. The danger of circularity – attributing to Chinese analysts ideas that have simply been translated from original English-language sources into Chinese – is real, but one that the research team carefully considered throughout. Most Chinese journals now openly attribute English-language articles to their original sources. By and large, this kind of material (direct translation from English) was not evaluated in this study, in favor of articles that appeared to represent the actual opinions of Chinese naval and defense analysts.

This article is divided into five parts. The first section surveys Chinese reactions to a variety of current issues in the U.S. submarine force, including recent deployments and incidents of special interest. A second section examines Chinese evaluations of specific submarine force capabilities, focusing especially on new factors (e.g., the development of SSGNs) that have been central to transformation efforts. Section three considers some critical historical issues, particularly Chinese perceptions of U.S. submarine operations during the Cold War. A fourth section considers how Chinese analysts believe their antisubmarine forces would match up against the U.S. submarine force. Section five reviews Chinese perceptions regarding the overall future trajectory of the U.S. submarine force. A conclusion summarizes the article and offers policy recommendations.

Overall, this article finds that Chinese naval analysts study the U.S. submarine force in excruciating detail, as concretely manifested in thousands of both strategic and technical articles that focus on it.² As one Chinese naval analyst puts it, "Nuclear attack subs are the most worthwhile weapons investments because they are the most survivable weapons platforms... During a regional conflict, [U.S.] nuclear attack submarines are the first in and last out."³ Nevertheless, there is also a keen appreciation that the U.S. Navy is focusing primarily on ongoing military operations in Iraq and Afghanistan. Writing in the official PLA journal (*Modern Navy*), one analysis declares, "The U.S. Navy's capabilities to wage war at sea are gradually declining, and open ocean warfare is already not a focal point."⁴ Recognizing the potentially major role of the U.S. submarine force in China contingencies, another analyst suggests: "On the basis of a great quantity of research, the PLA [People's Liberation Army] believes that U.S. nuclear submarines are very quiet, and difficult to discover and counterattack; at the same time, [their] attack power is great, [and] must [be] restrain[ed]."⁵ Such assessments underline the importance of a closer examination of Chinese perspectives concerning the American submarine force.

Current Developments

In order to give a sense of what Chinese analysts believe to be the trajectory of U.S. submarine force development, it is useful to examine their assessments of two significant recent events: the grounding of the Los Angeles-class submarine USS San Francisco (SSN 711) and the stationing of nuclear-powered submarines on Guam.

The Grounding of the USS San Francisco

The collision of San Francisco with an underwater mountain on 8 January 2005 greatly interested China's naval press. The articles published then, which prominently feature official U.S. photos of the damaged vessel, express admiration that a submarine that received such damage could have returned to port. This respect is couched in terms of the fundamental strength designed and built into the ship, however, not in terms of the critical factors of crew training and damage control. Author Qi Yaojiu, for example, wrote approximately four months after the incident in a typical article, "In order to investigate battle damage strength, the U.S. undertook strength tests [for submarines] under the conditions of nuclear weapons detonation." Additionally, "almost every U.S. submarine, before entering into active service, undergoes tests that use underwater explosives to evaluate resistance to battle damage."⁶

Notwithstanding this apparent respect, the author recognized that the damage San Francisco incurred would have amounted to a "mission kill," stating: "If the San Francisco collision had occurred during wartime, and crew members had experienced such wounds, the San Francisco would essentially lose its basic combat effectiveness."⁷ A realization that submarines do not have to be destroyed in order to lose combat effectiveness could influence Chinese operational calculations.

Also characteristic of Chinese discussions of San Francisco's grounding is an undercurrent of bewilderment, asking in effect, "Why were they going so fast?" The tone of analysis implies that such a high-speed transit is somewhat reckless. Thus, one Chinese analyst states that "a nuclear submarine in the process of underwater high speed transit is confronting serious danger" and that "even some U.S. Navy officials expressed that they could not understand the incident."⁸ Another author declares, "It is well known in all navies that as soon as a submarine enters international waters in order to protect its stealth, the submarine will not rely on its active sonar. Objectively speaking, a submarine at high speed that is not operating its active sonar is in danger comparable to a vehicle without headlights traveling in the pitch dark."⁹ Perhaps because China's submarine force consists primarily of diesel submarines that rarely make high-speed, long-distance transits, the circumstances surrounding the collision seem peculiar to Chinese naval analysts.

Chinese analyses of the San Francisco incident recognize the United States as a world leader in submarine rescue.¹⁰ As one author observes, "Overall, the USN employs the best submarine rescue vehicles and has the most extensive exercises, so its submarine rescue capability leads the world."¹¹ This appraisal is corroborated in *Modern Navy*: "Over the last few years, the U.S. Navy has continuously explored submarine rescue methods, and thus strengthened international cooperation, enhancing submarine rescue exercises with its allies. For us this represents a certain inspiration." Moreover, the Chinese author states, "small groups at various bases are alternatively ready for war or ready to go out and undertake the rescue of an American or allied submarine at any time."¹² Even though the Chinese navy evidently has extreme respect for the U.S. submarine force, the analyses of the San Francisco incident appear to show awareness that even this elite force can make errors and must invest in cutting-edge rescue technologies.

SSNs in Apra Harbor

As might be expected, China's naval press has watched the military buildup on Guam with great interest, particularly that of the American submarines.¹³ A 2004 article in *Modern Navy* suggests, "The U.S. Navy has stationed three nuclear-powered Los Angeles-class attack submarines on Guam. At present, the U.S. military has considered dispatching an additional 6 nuclear submarines.... Deployment of such weapons would give the U.S. military considerable capacity to 'gain the initiative by striking first' at us from the sea."¹⁴

The same journal a year later described the basing of nuclear-powered attack submarines (SSNs) on Guam in greater detail, observing that the United States officially reestablished Submarine Squadron 15 on Guam under Submarine Group 7 in February 2001 and deployed three nuclear-powered attack submarines there: the first and second in fall 2002 and the third in summer 2004. Moreover, as administered by Commander, Submarine Force Pacific, the submarine group "on the basis of troop deployment plans regularly dispatches 4-5 submarines under its 7th fleet jurisdiction. The duty period of these submarines is ordinarily 6 months. Each submarine can execute missions independently, or can attach to a carrier battle group."¹⁵

The operational significance of stationing SSNs on Guam is not lost on Chinese naval analysts. One observes that "if [a submarine] sets out from Guam, especially in a Taiwan Strait crisis, it may only require 2 days or so."¹⁶ A significant finding of the present study is that even in official journals, Chinese analysts are exploring Guam's vulnerabilities. The same author notes that Guam, in addition to conferring some advantages to the United States in a Taiwan crisis, also carries self-defense vulnerabilities having strategic implications:

The U.S. military has still not established a defense system of anti-aircraft, antimissile, and other defense systems on Guam—[there exists] only a pittance of coastal patrol forces. Once there are hostilities, Guam's defense can only rely on the U.S. Navy's sea-based missile defense system and Air Force joint operations. Consequently, in wartime, Guam's defense is still a problem; also, because it is in a special position surrounded on four sides by ocean at the intersection of three major international sea lanes, it is impossible to defend effectively. If the other side's long-range ballistic missiles, submarine-launched cruise missiles, long-range bombers or maritime special forces operations units, etc., can break through Guam's peripheral warning and defense, [to] destroy or seriously damage its naval port, airfield, munitions warehouse, and communications system, [then] the entire operational system of America in the Pacific Theater can become ineffective, its sustained warfare capability can greatly fall short of requirements [and] its resolution and dynamics of military intervention would have to change.¹⁷

Regardless of the validity of their specific claims, then, it is clear that some Chinese analysts perceive Guam to be vulnerable to offensive attacks.

U.S. Navy Capabilities

Having set the scene by reviewing major submarine force developments noted by Chinese analysts, we now turn to a more comprehensive survey of the major American capabilities that have attracted their attention. These include nuclear-powered cruise missile-armed submarines (SSGNs) and Tomahawk cruise missiles, Trident submarines, fast attack submarines, sensors and systems, and research and development.

SSGNs and Tomahawks

Chinese analyses demonstrate interest in the Navy's four new SSGNs, their conversion from Ohio-class ballistic-missile submarines, and their mission areas.¹⁸ A fairly typical article observes that refitting focal points are refitting the first 1–2 of 24 ballistic missile launch tubes for the use of special forces; tubes 3–10 into special forces use or for Tomahawk cruise missiles; [and] tubes 11–24 for Tomahawk cruise missiles. After refitting, the submarine can carry 154 Tomahawk cruise missiles, and 66 special forces personnel, a dock/shipyard cover, a frogman transport ship (SDV), and an advanced Seal Transport System (ASDS).¹⁹

Although they clearly recognize the potential value of an SSGN's embarked special operations forces, Chinese analysts appear to be much more impressed by the implications of one SSGN's potentially large inventory of Tomahawk cruise missiles and the high readiness rate that SSGNs will be able to maintain. One perceptive article observes that these features will allow other ships to focus on different mission areas:

After being refitted, SSGNs will be deployed 65% of the time each year on average.... As such, the USN will always have at least 2 SSGNs ready for battle at any time, and in wartime, 1 SSGN can take over the duties of many attack submarines and surface ships. Once the SSGN goes into service, this will significantly reduce the land attack burden shouldered by the surface fleet and allow it to focus on providing air defense against missile threats. At the same time, the SSGN will reduce the land attack role of SSNs, enabling them to concentrate on anti-surface and ASW [antisubmarine warfare] missions.

The same analysis also recognizes with some alarm that "it is conceivable that in the future the arsenal ships could from a safe distance simultaneously rain 500 or more guided missiles upon several points of an enemy's territory. Using [the SSGN] would be stealthier and faster than an air raid by carrier based aircraft and would also avoid pilot losses."²⁰

Chinese literature on SSGNs suggests anxiety regarding this capability and what it may mean for Chinese forces. One analysis calculates that SSGNs will allow the United States to engage in saturation attacks: "The ground forces that have relied on the traditional deception against air attack, such as fake targets and positions, will be severely tested under future conditions in which the U.S. armed forces are able to employ saturation attacks by low-cost [cruise missiles]."²¹ Another analyst, however, points out that Tomahawks are expensive, estimating that Tactical Tomahawks cost anywhere between 5.7 and 8 million dollars a round.²² One Chinese lesson from the Kosovo conflict was that the United States does not possess an infinite inventory of Tomahawk cruise missiles; even in that relatively minor conflict, it adjusted its weapons stocks to cope with apparent resource limitations.²³

Trident Submarines

Chinese writings about SSBN capabilities express concern about potential U.S. plans to place conventional warheads on submarine-launched ballistic missiles. One scholar writes that "the new Trident II D5 can achieve a CEP [circular error probable—generally, accuracy] of nine meters. Therefore, as far as point targets are concerned, there already exists the ability to achieve nuclear destruction with a conventional warhead." This accuracy, he worries, might raise the risk of war overall: "One can see that through lowering one's own barriers to war, one can more realistically deter the enemy. This undoubtedly reduces war's actual combat threshold."²⁴ This may reflect a Chinese concern that Trident conventionalization could give the United States more ability to coerce China in a variety of combat scenarios.

The nuclear deterrence provided by American nuclear-powered ballistic-missile submarines (SSBNs) is well recognized in the majority of Chinese writings, as is the significance of the shifting of five Ohio-class SSBNs (USS Pennsylvania, Kentucky, Nebraska, Louisiana, and Maine) from the Atlantic to Pacific fleets from 2002 to 2005. This transfer occurred as the four oldest Ohio-class SSBNs, which had all been stationed in the Pacific, were temporarily taken out of service for conversion to SSGNs; the two transactions effectively rebalanced the American SSBN force from a Pacific/Atlantic ratio of ten/eight to nine/five.²⁵

Fast Attack Submarines

Chinese observers are intensely interested in and closely follow other modern U.S. nuclear submarines, including the USS Jimmy Carter, Seawolf, and Hawaii. Highly detailed, full-page color photos of Seawolf- and Virginia-class submarines appear in China's most prominent naval journals. These photos are usually accompanied by articles that imply an advanced state of technology and advanced acoustic quieting. Thus, for example, Seawolf is described as having an X type stern, [sic] employ[ing] a non-circulating main pump SbW [sic] pressurized water reactor, rel[ying] on natural circulation [of cooling water], thereby reducing noise; us[ing] an advanced pump jet propulsor, [thereby] reducing noise, us[ing] anechoic tiles on the hull. Anechoic tiles can absorb the enemy's active sonar survey waves as well as both separate and reduce the submarine's own noise radiation. Moreover, this ship's own machinery power equipment also employs [sound isolation] technology. These measures reduce the Seawolf-class's noise level to 95 decibels, making it the world's quietest submarine (ocean background noise is 90 decibels, Kilo 636 noise is 105 decibels).²⁶

Additionally, Chinese authors believe Seawolf possesses "beyond-first-class performance" and is regarded as the most sophisticated and lethal submarine yet to go to sea, despite its "tortuous development history."²⁷

The Chinese also respect Virginia-class submarines for their advanced technology and quietness. An author in Modern Navy states that "compared with the Sea Wolf-class submarine, the Virginia is slower and carries fewer weapons, but is just as quiet. Its acoustic signature is lower than that of the improved model of Russia's Akula-class attack submarine and Russia's fourth-generation attack submarine that will

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hereafter be in active service.”²⁸ Another analyst, in discussing the Virginia class’s acoustic achievements, reports, “The Virginia-class has been called ‘the world’s quietest submarine,’ with a cruising sound level that is only 1/10 that emitted by a Los Angeles class boat pierce.”²⁹

The techniques used to build Virginia and its sister ships also evoke respect, with one author noting, “The use of modular construction has been a major breakthrough in the construction of the Virginia-class SSN. . . . This construction method is a revolutionary breakthrough compared to the methods used to build the Los Angeles-class.”³⁰ Modular construction is widely perceived as a tremendous advantage, allowing the United States to “promptly design and build new nuclear submarines on the basis of new circumstances and requirements.”³¹ Plans for Virginia, it is implied, having been generated by computer-aided design tools and relying on modular construction, could be based on a new SSBN design.³² Chinese authors argue that Virginia’s impressive technology allows it to “scout, reconnoiter, and keep watch from a concealed position using its modern sensors to gather intelligence; analyze it; fix radar positions, missile bases, and command centers; as well as watch and track warship movements.”³³ The Virginia class is thus seen as “a completely new attitude emerging on the world military combat arena.”³⁴ Some Chinese analysts believe “the U.S. will keep building Virginia class boats and the final number could exceed 30.”³⁵

Los Angeles-class submarines receive significant attention from Chinese authors. One article on this class notes, “The American Navy believes that: nuclear attack submarines are the most worthwhile weapons investments because they are the most survivable weapons platforms, have the advantage of being stealthy, and have become one of the premier threats at sea.”³⁶ Another author rates their performance as “outstanding,” with the reservation that although they have superior weaponry, they “might not [have proved] an effective counter to new types of Soviet nuclear submarines.” This impending disparity, in turn, is credited with precipitating U.S. follow-on designs.³⁷ Still another observer notes that Los Angeles-class submarines are aging: “By the year 2020, the U.S. military intends to have built 30 nuclear attack submarines. However, by the year 2016, all of the Los Angeles-class submarines will exceed 30 years of service life”; the writer emphasizes the great expense of replacing them with Virginia-class vessels.³⁸

Chinese naval observers regard American torpedo technology highly. Noting an enviable six decades of torpedo experience, one Chinese author observes, “Since World War II and for a relatively long period, U.S. torpedo technology has always been among the best in the world.”³⁹ With specific reference to the Mark 48 heavyweight torpedo, another analyst assesses that “the [Mark 48] torpedo’s outstanding effectiveness in all combat circumstances has been proven and it can be used to attack surface ships, nuclear submarines, and also diesel electric submarines.”⁴⁰ The same author describes the aggressive U.S. torpedo-testing program: “The USN has already carried out more than 6500 exercises and warshot firings [with the Mark 48], in addition to 20,000 simulations and 9 million mathematical simulations, so that this torpedo reaches a high state of reliability.” Perhaps in reference to the sinking of Russian Oscar-class submarine Kursk, and also as part of an overall effort to improve submarine safety consciousness, this analyst later observes that “the [Mark 48] system has been in active service since 1982 and there have been no safety accidents.”

Not every Chinese analyst would readily agree that the Mark 48 torpedo or its Advanced Capability (ADCAP) variant is especially fearsome. In a 2005 article, a Chinese author flatly stated, “Traditional heavy-weight torpedoes practically have no way to cope with modern diesel submarines in shallow waters.”⁴¹ The author notes that “shallow waters constitute a very acoustically complex warfare environment” and that the U.S. Navy has allocated significant resources to developing sonars suitable for littoral combat against diesel submarines.⁴² Another analyst, however, appreciates the U.S. Navy’s ability to upgrade the weapon: “At the moment, [the Mark 48] torpedo is still being upgraded, so that it can correspond to the challenges associated with shallow water environments and threat—it is expected to be in service with the USN until 2025.”⁴³

Sensors, Systems, Research, Development, and Training

American efforts at exploiting advancements in commercial off-the-shelf technology have received attention. One article observes that “the updated (COTS) CCS MK II [fire control] system is not only used on the Los Angeles and Ohio classes, but is also used on the new Seawolf and Virginia class submarines”;⁴⁴ another points out that “92% of the hardware and 90% of the software used in non-publicly available projects in fact come from popular commercially available technologies.”⁴⁵ China’s intense interest in the U.S. Navy’s use of COTS may stem in part from Beijing’s effort to develop a world-class commercial information technology industry and to incorporate its products into the PLA.

Chinese analysts also monitor American submarine sensor development. One article notes, “At present, the U.S. is the world leader in developing periscope technology and using it on its submarines.”⁴⁶ U.S. efforts to bolster the submarine force’s mine warfare capabilities receive particular attention.⁴⁷ Moves to develop and acquire the Long Term Mine Reconnaissance System (LMRS) have been noted, with one researcher stating that “the U.S. is now buying 8 long-range mine scouting systems to be put on the Los Angeles and Virginia class nuclear attack submarines.”⁴⁸

Chinese observers pay fairly close attention to American submarine-related research and development efforts. For example, websites on Chinese naval matters frequently report on the awarding of Defense Advanced Research Projects Agency (DARPA) and Office of Naval Research (ONR) contracts.⁴⁹ Chinese journals take advantage of these announcements and also scour the U.S. open press for sources that can be exploited. For example, a rather lengthy article in the June 2002 issue of *Modern Ships* reprinted the “Submarine of the Future” briefing slides (complete with a logo in the upper left-hand corner of each) generated by the DARPA-sponsored, Lockheed Martin–led industrial consortium “TEAM 2020.” These slides depict futuristic hull forms, sonar configurations, propulsors, weapons storage ideas, interfaces for unmanned underwater vehicles, and other elements of advanced submarine designs and concepts.⁵⁰ It seems that little, if any, publicly released information regarding U.S. submarine-related research and development escapes the attention of Chinese analysts.

In keeping with the technological dynamism of U.S. platforms and their constant improvement, Chinese analysts also credit the American submarine force with an extremely rigorous selection and training process for commanding officers. In a coauthored article in *Modern Navy*, Rear Admiral Yang Yi, a PLA expert on the United States and former naval attaché in Washington, emphasizes that “the U.S. Navy’s selection process for the commanding officers of nuclear submarines is very strict.” Yang details the numerous education and training programs that successful candidates must attend, as well as the periodic qualifying tests they must undergo. A major emphasis of his article is the extent to which submarine commanders must periodically update their “specialized [technical] knowledge.”⁵¹

Historical Issues

Although China is emerging as a submarine power, its submarine force, and indeed its navy overall, generally lacks blue-water experience, to say nothing of a combat history. Of course, this paucity of experience stands in stark contrast to the U.S. submarine force, and PLA Navy analysts are acutely aware of that disparity. In fact, Chinese naval analysts have expressed particular admiration for the record of American submarines in World War II, pointing out that “the U.S. submarine force had the fewest losses” of any major submarine force “but had high combat effectiveness. According to statistics, the U.S. submarine force destroyed 1,314 enemy ships during the war.”⁵² Moreover, Chinese sources indicate an appreciation for the accumulated knowledge that the U.S. Navy has achieved through decades of intense submarine operations. Another Chinese source observes: “The U.S. is a country with 100 years of experience in building submarines, and with so many years of experience the USN constantly emphasizes the ability of a submarine to take punishment [and survive].”⁵³

While there are numerous Chinese writings on the U.S. Navy’s submarine force’s campaign against Japan, this article focuses on the Chinese perceptions of American submarine operations during the Cold War. Some of the observations made in this context may explain aspects of contemporary PLA Navy submarine doctrine. For example, an article in *Modern Ships* relates an anecdote of a “Soviet Type 627 [known in the West as ‘November’] nuclear attack submarine [that] once went all out in a race with a U.S. Navy aircraft carrier, revealing the Soviet attack submarine’s capabilities. [This revelation] apparently has had a major impact on the development of a new class of American submarines.”⁵⁴ This appraisal of the peacetime interaction between the two navies may suggest that overly aggressive tactics employed by the Soviet Navy yielded too much information to the U.S. Navy. In general, it is quite clear that Chinese sources understand that a “main mission of [U.S.] nuclear attack submarines [during the Cold War] was to deal with the Soviet Navy’s SSBNs.”⁵⁵

With respect to the Cold War at sea, one Chinese book published in 2006 is worthy of particular note.⁵⁶ The translation of a Russian book, *Secrets of Cold War Undersea Espionage*, it states that “U.S. nuclear and conventional submarines would often lurk along the routes of Soviet warships, and even within Soviet territorial waters, conducting intelligence activities.”⁵⁷ It is noted that “the SOSUS [Sound Surveillance] system substantially helped the U.S. to cope with the capabilities of the Soviet submarine force.”⁵⁸ The subject of acoustic signatures is also raised: “In the ocean, there are simply too many sources of noise. . . . In order to cope with this problem, the U.S. decided to build an acoustic signature catalogue (resembling a fingerprint) for Soviet submarines.”⁵⁹

Chinese ASW And The U.S. Navy Submarine Force

When considering Chinese views of the American submarine force, it is certainly relevant to consider how China appraises its own antisubmarine warfare forces. Generally, China considers its ASW forces to be weak. One Chinese naval analyst observes: “[Chinese] people are focused on China’s submarine force (both conventional and nuclear) development, but often neglect the threat we face from [U.S. Navy] submarines.”⁶⁰ It is, moreover, suggested that “there is still a relatively large gap between [China’s] ASW technology level and that of the world’s advanced level.”⁶¹ In appraising the ASW capabilities of its own surface forces, another naval analyst notes, “Across the world, most naval ships are now equipped with towed array sonars, which has increased their ASW capabilities, but most of our ships only have hull mounted sonars.”⁶² Finally, there is a concern that these antisubmarine assets are themselves highly vulnerable: “Submarines can carry out ferocious missile attacks from tens or even 100–200km ranges, causing the submarine hunting vessels to become the hunted targets.”⁶³

Chinese aerial ASW is also highlighted as a particular weakness. One Chinese analyst judges that the Z-9 helicopter lacks adequate range and internal space for the ASW mission.⁶⁴ A second argues that while the Z-8 has better range and capacity, it is too big for most surface combatants to carry and chronic engine troubles have limited production.⁶⁵ The Russian-import Ka-28 ASW helicopter is reported to be capable but few in numbers.⁶⁶ As for Chinese maritime patrol aircraft, some designs have apparently been developed, including a variant of the Y-7 Fearless Albatross, but the outlook is said to remain bleak.⁶⁷ Thus, one evaluation of Chinese aerial ASW concludes, “Our country at the present stage does not have an ASW maritime patrol aircraft. . . . but the number of submarines in our peripheral seas is increasing, and their technological sophistication is also increasing. This contradiction is becoming more obvious every day, creating a grim situation.”⁶⁸

In Chinese discussions of Russian ASW systems, there is a pointed recognition that the Soviets leaned heavily toward the use of tactical nuclear weapons (e.g., nuclear depth charges and torpedoes) in ASW operations.⁶⁹ Tactical nuclear weapons are also mentioned in the context of mine warfare. An article in the July 2006 issue of *Modern Navy*, in discussing possible PLA Navy use of sea mines, suggests the potential combat value of nuclear-armed versions.⁷⁰ It will be important to watch closely for any sign of Chinese efforts in this direction.

While the overall impression is that of Chinese ASW weakness, there is one notable exception. Significant prioritization appears to be given to the use of sea mines for the antisubmarine mission, as if to produce a “poor man’s ASW capability.”⁷¹ One discussion explains, “Because of a tremendous change in the maritime strategic environment, since the early 1990s the PLA has made mobile ASW sea mines a focal point of weapons development.” The analysis continues, “[China] is energetically undertaking the research mission [of] using [mobile ASW sea mines] against U.S. nuclear submarines.”⁷² The same discussion also hints at a possible PLA Navy ASW role: “The major mission of self-guided sea mines is to isolate American nuclear submarines outside the First Island Chain.”⁷³

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