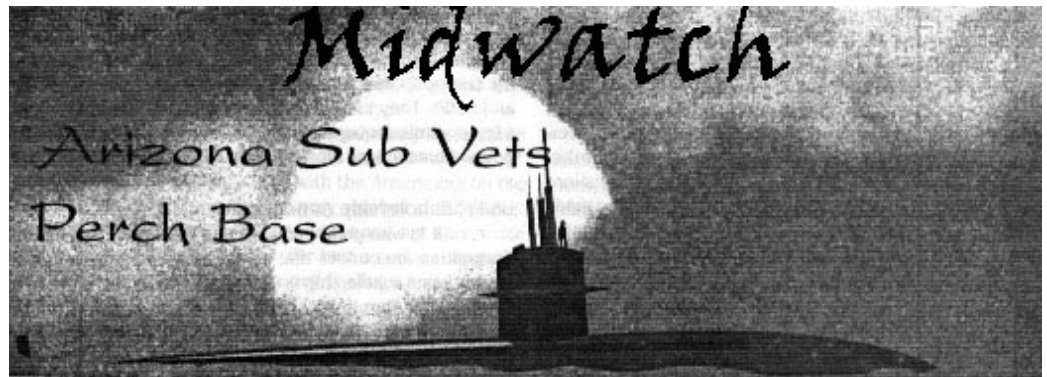





February 2004  
Volume 10 - Issue 2



<http://perch-base.org>

### What's "Below Decks" in the Midwatch

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**Lest We Forget Those Still On Patrol**

**FEBRUARY ETERNAL PATROLS**

<b>USS Barbel</b>	<b>SS316</b>	<b>Feb. 4, 1945</b>	<b>81 men</b>
<b>USS Shark</b>	<b>SS174</b>	<b>Feb. 11, 1942</b>	<b>58 men</b>
<b>USS Amberjack</b>	<b>SS219</b>	<b>Feb. 16, 1943</b>	<b>74 men</b>
<b>USS Grayback</b>	<b>SS208</b>	<b>Feb. 26, 1944</b>	<b>80 men</b>
<b>USS Trout</b>	<b>SS202</b>	<b>Feb. 29, 1944</b>	<b>81 men</b>

**NEXT REGULAR MEETING - FEBRUARY 14, 2004**  
**American Legion Post #62**  
**11001 N. 99th Ave.**  
**Starts at 1200 hours**  
**Lunch provided at \$3 a head**

## **IN MEMORIAM**

**Donald Wannamaker MMC(SS)  
Aug. 21, 1930 ~ Jan. 11, 2004**

### **Shipmate Don Wannamaker's Naval Career**

Don entered the Navy in September 1948. His first duty assignment was Machinist Mate School. Upon graduation, he was assigned to the USS Missouri (BB63). After a short tour, Don was assigned to the oldest battleship in commission, the USS Mississippi (BB41). His next duty station brought him to the USS Midway (CVB41), which was the largest aircraft carrier at that time. After two years, Don was transferred to the USS Roosevelt (CVB42). From there he went to the USS Gilbert Islands (CVE107), a small jeep carrier. After one year onboard, he was transferred to the Donner (LSD20), an amphibious landing ship.

After one year aboard the USS Donner, he applied for, and was transferred to, Submarine School. Upon completion, he was assigned to the USS Sailfish (SSR572), a radar picket submarine. From the Sailfish, he entered Nuclear Power School and on graduation, assigned to the USS George Washington (SSBN598). He was onboard when the Washington fired the first successful Polaris Missile. After three patrols on the George Washington, he transferred to the USS Hunley (AS31), the first submarine tender built from the keel up for Polaris submarines. After commissioning, he spent a little over three years with her at Holylock Scotland. He then transferred to the USS George Washington Carver (SSBN656) pre-commissioning crew. After her commissioning, Don transferred to the pre-commissioning crew of the USS Queenfish (SSN651) as the Chief of the Boat.

Don was discharged in November 1968.

***Sailor ... Rest Your Oar***



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# Sailing Orders



**Next Regular Meeting  
Feb. 14, 2004**

**March Meeting on the 13th of  
the month**

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**District 8 Convention  
Denver, CO  
May 14 & 15, 2004**

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**2004 National Convention  
Albany-Saratoga, NY  
Sept. 15 - 19, 2004**

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***American Legion Post #62  
(our host post)***

## February Activities

**Feb. 13 - Executive Committee Meeting  
7 p.m.**

**Feb. 20 - General Membership  
7 p.m.**

## From the Wardroom

Shipmates

We had one great turnout this past meeting. Our guest speakers were very informative and did one fine job. They made each one of us stop and think about what we can do for home security in our neighborhoods.

The loss of our past Commander, Don Wannamaker, January 11, saddens us all. Don will be missed by all of his shipmates. His tireless effort, for Perch Base — such as his and Judy's setting up the annual Christmas/Hanukah party for several years for example — was an inspiration to us all. The annual Perch Base and USSVI calendars he worked so hard to get produced stands as a standard for all who have followed. Sailor Rest Your Oars. You will not be forgotten. Judy Wannamaker sent the base a letter, which I will read for all hands at our meeting in February, thanking us for the support in her time of need.

Our base membership is growing, but we will lose a few members now that we have a Tucson Base. Ramon Samson, our Webmaster, will post a list of Tucson Base's founding

**See "WARDROOM" on page 9**

## From Beyond the Wardroom Perch Base SubVettes

We had a great meeting last month, thank you all for attending. The Home Land Security presentation was very informative and enlightening.

In our February meeting we will be discussing our monies disbursement. I would like you all to attend and participate, your opinion and vote count.

There are other important issues on our agenda for the February 14<sup>th</sup> meeting, so please try to be at the Americana Restaurant at 12 noon on that Saturday.

I want to say HAPPY BIRTHDAY to:

Dorothy Crider - Feb. 12

Lil Asbell - Feb 17

Susan Day - Feb 17

And a Happy Valentines Day to everyone.

With Fond Regards,  
Nancy Nelson, President  
SubVettes of Perch Base

## SUBVETTES MEETING MINUTES January Meeting

The fourth monthly meeting of the SUBVETTES of Perch Base was convened at the Americana Restaurant, Peoria, Arizona at 1205 hours, January 10, 2004. There were 16 members, plus 1 guest attending the meeting. President Nancy Nelson called the meeting to order and conducted the Pledge of Allegiance. Kathryn Otreba led the members in a prayer of invocation.

President Nancy Nelson reminded members that raffle tickets were available for a Dolphin Statue that was later won by Millie Hillman.

Since no meeting was held in December, due to the Christmas party, a motion was made by Kay Harnish to dispense with the reading of the minutes. Muriel Grieves seconded motion. Motion carried.

Treasurer Debbie Newell reported on the Base's financial status as of January 31, 2004.

A motion to accept the report as read was made by Marygrace Veek and seconded by Brandi Hershey. Motion carried.

Nancy Nelson welcomed guest Bonnie Larson, wife of our new District 8 Commander Leif Larson.

### OLD BUSINESS

President Nancy Nelson advised members that there are membership cards and plank owner certificates that need to be delivered to members who have not been able to attend the meetings.

Nancy reported on the Christmas/Hanukkah dinner, which was a great success. Nancy and Kay received an award from Perch Base and Ramon Samson was named "SHIP-MATE OF THE YEAR".

Nancy advised members that an amendment to the Base Constitution & By-Laws needed to be made to include the new age limits implemented by USSVI Subvettes.

Vice President Kay Harnish advised members that 2004 dues needed to be collected and that Life membership is available at the local level. She also notified members that an increase in dues is scheduled for the near future, so anyone wishing to take advantage of Life membership is advised to avoid the increase.

**See "SUBVETTES" on page 6**

## January Meeting Minutes

The regular monthly meeting of the members of the Arizona Submarine Veterans, Perch Base was convened at the American Legion Post #62 Peoria, AZ at 1247 hours, January 10, 2004. The meeting was called to order by the Base Commander, Glenn Herold.

Base Chaplain Howard Doyle led the members in a prayer of Invocation. The members were then led in the "Pledge of Allegiance" followed by a reading of the "Purpose of the Organization", Dedication, a Moment of Silence for our departed shipmates and the "Tolling of the Boats" ceremony for submarines lost during the month of January.

According to the sailing list, there were 35 Perch Base members and 2 guests at the meeting.

Those present welcomed new members – Lee Lloyd, Tim Moore, John Cash and Ken Schonauer. Each of the new members briefed the gathering on their backgrounds and experiences.

The members also welcomed guests – Ray Marshall (visiting from New Jersey North Base) and Leif Larsen (USSVI District 8 Commander).

A motion was made and seconded that the minutes from the November meeting be approved as published in the Base Newsletter, "The MidWatch." The motion carried by voice vote of the members present.

Treasurer (Robert May) reported the Base's financial status as of the first day of January, 2004.

A motion was made and seconded to accept the Treasurer's report as read. The motion carried by unanimous voice vote.

### REPORTS BY OFFICERS AND COMMITTEE CHAIRMEN

Vice Commander – Adrian Stuke was not present.

Base Chief of the Boat – Doug LaRock had nothing to report

Chaplain – Howard Doyle and informed the members that two of Perch Base Shipmates had departed on eternal patrol during the month of December and asked members to remember them and their families in our prayers. Shipmates Ed Reynolds and Richard Schiltneck passed away during the holiday season. Howard again asked all members to let him know when members become ill or pass away, so he can make appropriate notification and console members and their families.

Membership Chairman – Ramon Samson reported that 80% of the existing members have renewed their membership for 2004. Ray also reported that the Perch Base Web Site continues to be updated and sees a good deal of activity. He asked that anyone have constructive criticism about the makeup or content of the Web Site should write or email him.

News Letter Editor – Chuck Emmett was not present at the meeting.

Ship's Store – Jim Nelson reported that new items are coming to the store and encouraged members to keep checking the Ship's Store merchandise. He also thanked the members for supporting the Perch Base through purchases from the Ship's Store.

### OLD BUSINESS

Dave Harnish briefed the members on the 2003 Perch Base Christmas Party. He emphasized the fact that Ramon Samson was honored as Perch Base Sailor of the Year. Other members were also cited for their contribution to the organization by receiving Letters of Commendation.

Dave also informed the members that the 2004 Christmas Party would again be held at the Luke AFB Enlisted Club on December 11<sup>th</sup>. However, through necessity, the fee for attending the 2004 event will be raised to \$20 per person.

Glenn Herold informed the members that the ground breaking ceremony for American Legion Post 62's new building took place on December. The project is expected to complete sometime during the summer of 2004.

### NEW BUSINESS

Glenn also asked members to get involved as volunteers in support of Post 62. Such efforts show the Post how much we appreciate what they are doing for Perch Base. Efforts are underway to organize members for a once a month support event.

Dave Harnish announced that this year's USSVI District 8 meeting will take place on May 14 and 15 in Denver Colorado and the USSVI National Convention will take place in Sarasota, New York on September 15 through 19. Those planning to attend should make reservations at the earliest date.

District 8 Commander Leif Larsen briefed the members on changes taking place with regard to national dues. Since the dues schedule hasn't changed in many years, increased

See "MINUTES" on page 6

*(continued from "MINUTES," page 5)*

expenses dictate that the dues should be increased. This will include dues for becoming USSVI Life Member. Anyone contemplating becoming a Life Member should do it right away to take advantage of the current lower rate.

Leif also informed the members of the impending establishment of a USSVI Base in the Tucson area. Leif and Dave Harnish are to attend the first meeting of the Tucson Base on Tuesday the 15<sup>th</sup>.

Ed Brooks announced that he would be mailing letters to all the members asking for their support of the U.S. Submarine Veteran's Charitable Foundation. The goal for the year is to raise an average of \$10 per member. Those members willing to contribute at least \$150 will receive one of Ed's carvings (the 27" Mahogany Dolphins or the American Bluejacket on a wooden ship's wheel). The goal this year also includes a combined donation of \$1,000 to the "Gary Patterson Memorial Scholarship" to be awarded by the Scholarship Committee this coming spring.

#### **GOOD OF THE ORDER**

Glenn Herold announced that the Perch Base Ladies Auxiliary would be joining with the members to hear a "Homeland Security Presentation" by two Phoenix Community Action Officer.

#### **ADJOURNMENT**

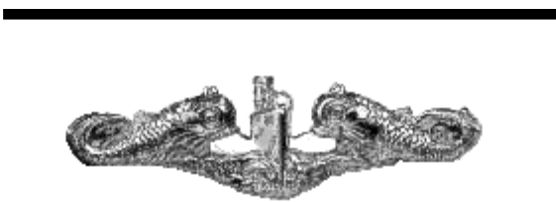
All the outstanding business being concluded, it was moved and seconded that the meeting of the Arizona Submarine Veterans - Perch Base be adjourned. The motion carried by voice vote.

The closing prayer was offered by Howard Doyle and the meeting was adjourned at 1322 hours.

#### **50/50 DRAWING**

The 50/50 drawing was held after the Homeland Security Presentation and the winner was Kathryn O'treba. The winner's share of the drawing was \$72

Edgar T. Brooks B Base Secretary



*(continued from "SUBVETTES," page 4)*

#### **FOR THE GOOD OF THE ORDER**

President Nancy Nelson made a special presentation to members Heather Newell and Brandi Hershey of a card and National patches that Nancy received from Ella Blado, SubVettes National President, thanking Heather and Brandi for all they do to make a difference in Perch Base.

#### **NEW BUSINESS**

Nancy Nelson updated members regarding the National Convention in Saratoga Springs and advised members to contact her if they need more information.

All members joined Nancy in wishing Joanne Norwood a Happy Birthday, whose special day is January 24.

All members joined Nancy in welcoming new SubVettes member Jacque Hawkins.

Brandi Hershey and Heather Newell presented members with the Base Historian Book.

A motion to adjourn the meeting was made by Millie Hillman and seconded by Debbie Newell. Motion carried.

All the outstanding business being concluded, it was made by Millie Hillman and seconded by Debbie Newell that the meeting of the SubVettes of Perch Base be adjourned. The meeting was adjourned at 1315 hours.

Signed:  
Debbie Newell, Secretary



## This Old Boat . . .

EDITOR: Well, we almost scored 100% on last month's "This Old Boat . . ." with only one correct answer, which was from -- yep, you guessed it -- Royce Pettit. As Shipmate Pettit so aptly, and correctly, said:

"The last time I was professionally concerned with Soviet SSBNs was my last sea duty, on a Carrier Division in the Atlantic (in the Pacific they were known as ASW Groups). I left in August 1969. So my memory of class names was lacking. However a reference to the Library's "Jane's Fighting Ships" enabled me to identify January's boat as a Delta 2 class (the Delta 1s had fewer missile silos and so had a shorter hump aft of the sail. Does using Jane's count?"



Do you recognize this old boat? Send your answer to the editor

**chuckster41@earthlink.net**

OK, I'm not on a roll right now, but perhaps this may start another. Identifying this boat may not be that easy, so a few clues are in order:

1. She is of a pre-WW II class.
2. She lasted for about 23 years from commissioning to decommissioning.
3. Some of her history may have made many call her a jinxed boat.
4. She was not sunk in action or during combat times.
5. She did, however, see combat.

As usual, send me the answer by e-mail (chuckster41@earthlink.net).

*Do you have any information to share with shipmates? Contact the Midwatch Editor, Chuck Emmett at:*

(602) 843-9042  
chuckster41@earthlink.net

## SHIPMATES COLUMN

EDITOR: Thanks to all my Shipmates who have contributed ideas and articles for this newsletter. Please keep them coming. I try to use all that are submitted, but I can't always accommodate them all. To those who have submitted and not seen their article, I apologize. But don't stop sending. So, shipmates, please continue to provide me with stories and leads. They're very good and you have my thanks.

Shipmate Ben Acosta, at the Base Christmas/Hanukah Party, requested the Base's support for his annual Christmas visit to an orphanage he has been supporting in Ciudad Juarez, Chihuahua, Mexico.

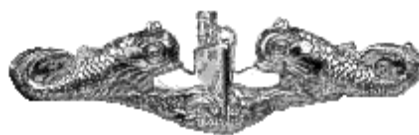
The Base generously contributed over \$250 to this worthy cause.

Ben took these pictures of how and where the contributions were spent.



This is the area of Juarez in which the orphanage is located.

**See "ORPHANAGE" on page 9  
for more photos.**



**Need a book about submarines?  
Have you checked out our base library?  
It's easy. Find the book online at:  
[http://perch-base.org/  
perch\\_base\\_library.html](http://perch-base.org/perch_base_library.html)**

## Eternal Patrol Feb. 16, 1943

Editors Note: *Less we forget, each month, one boat on eternal patrol will be highlighted in this newsletter. Sailors, rest your oars.*

### U.S.S. Amberjack (SS-219) 74 men lost



Following her second patrol, AMBERJACK's period of refit, rest and recuperation was cut to twelve days, due to the urgent necessity of submarines in the operating areas. She started out on 24 January, but was forced to return to port for the repair of minor leaks experienced during a deep dive.

Again departing Brisbane on 26 January 1943, AMBERJACK, under Lt. Cmdr. J. A. Bole, Jr., started her third war patrol in the Solomons area. On 29 January she was directed to pass close to Tetipari Island and then proceed to the northwest and patrol the approaches to Shortland Basin. Orders were radioed on 1 February for her to move north and patrol the western approaches to Buka Passage. Having complied with these orders, AMBERJACK made her first miles southeast of Treasury Island on 1 February, and of sinking a two-masted schooner by gunfire twenty miles from Buka the afternoon of 3 February 1943. At this time she was ordered to move south along the Buka-Shortland traffic lane and patrol east of Vella Lavella Island.

Making a second radio transmission on 4 February, AMBERJACK reported having sunk a 5,000-ton freighter laden with explosives in a two-hour night surface attack that date in which five torpedoes were fired. During this engagement Chief Pharmacist's Mate Arthur C. Beeman was killed by machine gun fire, and an officer was slightly wounded in the hand. On 8 February, AMBERJACK was ordered to move to the West Side of Ganongga Island and on the 10th, she was directed to keep south of Latitude 7-30 'S, and to cover the traffic routes from Rabaul and Buka to Shortland Basin. On 13 February AMBERJACK was assigned the entire Rabaul- Buka-Shortland Sea area, and told to hunt for traffic.

The last radio transmission received from AMBERJACK was made on 14 February 1943. She related having been forced down the night before by two destroyers, and that she had recovered from the water and taken prisoner an enemy aviator on 13 February. She was ordered north of Latitude 6-30 'S, and told to keep hunting for Rabaul traffic.

All further messages to AMBERJACK remained unanswered, and when, by March 10, she had failed to make her routine report estimating the time of her arrival at base, she was ordered to do so. No reply was received, and she was reported as presumed lost on 22 March 1943.

Reports received from the enemy since the end of the war record an attack, which probably sank AMBERJACK. On 16 February 1943, the torpedo boat HIYODORI and sub chaser Number 18 attacked an U.S. submarine with nine depth charges in 5-05 'S, 152-37 'E. An escorting patrol plane had previously attacked the submarine. A large amount of heavy oil and "parts of the hull" came to the surface. This attack is believed to have sunk AMBERJACK. However, no final conclusions can be drawn, since GRAMPUS was lost in the same area at about the same time. From the evidence available, it is considered most likely that the attack of 16 February sank AMBERJACK, but if she did survive this attack, any one of the attacks and sightings thought to have been made on GRAMPUS might have been made on AMBERJACK.

This vessel was credited with sinking three ships, for a total of 28,600 tons, and damaging two more ships for 14,000 tons damaged. AMBERJACK's first patrol was made in the Shortland- Rabaul-Buka area, as her last was. During this first patrol conducted during the last half of September and the first half of October 1942, she sank a freighter, a transport and a large tanker of 19,600 tons. In addition she damaged a freighter and a transport, and made a valuable reconnaissance of several islands in her area. The second patrol of this vessel was in the area west of Bougainville. Although several attacks were made, no damage was done to the enemy. On the basis of her radio report, AMBERJACK was credited with having sunk a 5,000-ton freighter on her final patrol. The enlisted men's recreation center at the Submarine Base, Peal Harbor is named for Chief Pharmacist's Mate Arthur C. Beeman, who was killed in the gun battle of 4 February.





*(continued from "WARDROOM," page 4)*

officers and plank-owners, and the same list is posted elsewhere here is this copy of the MidWatch.

We are growing stronger with a base in Yuma, Tucson, and shortly, we hope to have a base in the White Mountains.

Our District Commander, Leif Larson, and our Western Regional Commander Dave Harnish, are both doing a great job in making Arizona USSVI as strong as possible.

I am looking forward to seeing all of you at our February meeting.

Fraternally Yours,  
Glenn Herold  
Base Commander



On Saturday, Jan. 17, 2004, the new Tucson Base of the USSVI held their meeting of what was the newest Base and the first offspring of Perch Base.

The following are the new Base officers and members:  
Officers:

Commander: Brad Bradstead  
Vice Commander: Gary Bartlett  
Sect/Treasurer: Mike Ortiz

Other Members:

Dick Shoemaker  
W Scott Prothero  
Billy Scott  
Bob Parker  
Pete Ford  
Warren Grossetta  
Bob Albright  
Tom Patterson  
William McNay  
Bob Strosser

***God speed, Shipmates!***



## Chaplain's Column

There has been no information sent to the Base Chaplain about any member or family in sick-bay. If we have missed anyone, our thoughts and prayers are with them. Please don't let a shipmate in need go un-noticed.

*Do you have know of any shipmate who's sick or the wife or family member of a shipmate?  
Contact the Base Chaplain, Howard Doyle:*

*(623) 935-3830  
d-hdoyle@worldnet.att.net*

*(continued from "ORPHANAGE," page 7)*



Ben shown with the food purchased from our contributions.



The delivery. Everyone turned out.

**See "ORPHANAGE" on page 13**



# Submarines in History

## GUPPY - Between WW II and the Nuclear Age

Following the Second World War, it was recognized that there was a need to improve the submerged speed, maneuverability, and endurance of our submarine force. The Greater Underwater Propulsion Power Program was instigated.

Like all programs in the military, some sort of “name” needed to be applied that would attract and hold attention. Since GUPPP didn’t sound quite right, the third “P” was dropped and a “Y” added. Thus was born the word GUPPY, which had a far better ring to it since it did in fact sound more like a fish. At this time all submarines were named after undersea life.

After World War II, the Navy obtained two German Type XXI boats. These were studied and tested extensively. The lessons learned from their study led to a design that increased the battery capacity, streamlined the boat’s structure, added a snorkel, and added a better fire control system. This new design created was called the TANG Class. The new boat was so much better that it made the existing fleet boat obsolete. But, the new boat was expensive. The Navy had to find a way to upgrade the existing fleet boats to match the TANG class’s ability.

There were seven major conversion types: GUPPY I, GUPPY IA, GUPPY IB, GUPPY II, GUPPY IIA, GUPPY III, and the Fleet Snorkel.

The GUPPY bow dug deeply into the waves and the step sail was little protection. Control during snorkeling was difficult at best and sometimes impossible. The snorkel induction, topped by the head valve, had to be kept out of the water. If it ducked to the surface or below, or a wave hit, it would automatically slam shut. The diesel engines would keep running for a short time removing some sixteen thousand cubic feet of air from the boat’s internal atmosphere per minute per engine.

It would take from ten to thirty seconds for the engines to draw enough vacuum in the boat to shut down automatically after the snorkel induction head valve shut depending on whether the boat was running on one or two engines. This occurred at a vacuum of six inches of mercury below atmosphere, equivalent to a 6000-foot altitude.

Sometimes the head valve would shut for five or six sec-

onds then reopen as the snorkel induction again cleared the surface. The atmospheric pressure would return to normal in the next few seconds. Then the head valve would shut as another wave passed. This cycle would occur over and over for days and days.

The majority of the information about the operations of the GUPPYs during the Cold War remains classified to this day. However, without the conversion from the fleet boats of WWII to the GUPPYs of the Cold War era, the operations that the GUPPYs were responsible for would not have been possible.

The success of submarine cold war operations is directly related to the crews and the GUPPY conversions. These submarines, and their crews, certainly “Held the Line” during the Cold War until the SSNs and SSBNs took over to continue the high tradition of the United States Submarine Service

## FLEET SNORKEL



U.S.S. Bergall (SS-320)

The Fleet Snorkel boats are often considered as GUPPYs. The Fleet Snorkel is a special class of boat. These boats were much like the GUPPY IIs except they didn’t have some of the internal modifications that the GUPPY IIs had. They had two batteries and most still had closed cell ventilation and four engines.

They had the distinctive sails of the conversion yard but they retained their fleet bows. It was simply a fleet boat with the snorkel induction and exhaust piping and masts, and an ECM mast. Most had BQR-2 sonar in the chin mount and had sonar in the space vacated by the magazine under the galley. The auxiliary engine was replaced with two air conditioning plants.

The following were the Fleet Snorkel boats:

USS Sabalo (SS302), USS Sablefish (SS303), USS Bergall (SS320), USS Charr (SS328), USS Bugara (SS331), USS Carbonero (SS337), USS Carp (SS338), USS Cusk (SS348), USS Kraken (SS370), USS Lizardfish (SS373), USS Mapiro (SS376), USS Mero (SS378), USS Sterlet (SS392), USS Scabbardfish (SS397), USS Segundo (SS398), USS Sea Cat (SS399), USS Sea Owl (SS405), USS Sennet (SS408), USS Piper (SS409), USS Torsk (SS423), USS Argonaut (SS475), USS Runner (SS476), USS Diablo (SS479), USS Medregal (SS480), USS Requin (SS481), USS Irex (SS482).

## GUPPY I



U.S.S. Odax (SS-484)

The GUPPY I boats had these changes:

Externally:

- Deck guns and associated containers were removed.
- Entire bridge/shears structure was streamlined to reduce drag.
- The periscope and radar mast support structure was enclosed.
- The faired structure which now contained the Conning Tower and mast support was now called the "Sail."
- The top of the sail was bulged out to the side to make room for SV-radar screen.
- Capstans and deck cleats were made retractable and deck rail stanchion supports were inset in the deck. All deck railings were removed when the boat rigged for dive.
- The Fleet Boat bow was removed and a rounded bow replaced it. The "GUPPY Bow."

Internally:

- Ammunition magazine was removed from under the galley and the chill and freeze boxes were moved to the after battery upper level.
- Battery power was increased with installation of 4 126 cell batteries. One and one-half of the batteries were put in the forward well in the lower level of the forward battery. One-

half of a battery was put into the forward end of the pump room. Two complete batteries were placed in the after battery well.

- The battery cells (GUPPY Battery) had more, thinner plates and would generate higher amps for a longer time. However, this battery had a shorter life span, longer charging time, and required cooling water to be circulated through the battery terminals and termination bars.
- Sonar was increased to include the BQR-2 or 2A with hydrophones mounted under the forefoot in a chin mount and inboard electronics housed in the forward torpedo room.
- Two or four high speed motor and reduction gear configuration were replaced by slow speed motors.
- The batteries could be connected in series or parallel and the combination possible from this arrangement gave a wide speed range.
- All open front switchboards were replaced with enclosed units.
- 120 volt 60 Hz AC and 120 volt 400 Hz electrical systems were introduced for lighting and electronics.

The following were the GUPPY I boats:

USS Odax (SS484), USS Pomodon (SS486)

## GUPPY IA



U.S.S. Caiman (SS-323)

Because of the expense of the GUPPY II program, the GUPPY IA program was devised and it provided an interim measure which saw such special features as Greater underwater propulsion power, Sargo II batteries, streamlined sail and super-structure, new masts, snorkel, and equipment updated and rearranged. These equipment changes were not as drastic as those performed on the GUPPY IIs.

These were the GUPPY IA boats:

USS Becuna (SS319), USS Blackfin (SS322), USS Caiman (SS323), USS Blenny (SS324), USS Chivo (SS341), USS Chopper (SS342), USS Atule (SS403), USS Sea Poacher

*(Continued on "GUPPY," page 12)*

(continued from "GUPPY," page 11)

(SS406), USS Sea Robin (SS407), USS Tench (SS417).

## GUPPY IB



U.S.S. Hawkbill (SS-366)

The GUPPY IB program was another interim conversion which converted four boats for transfer to foreign navies. These boats had snorkels and were somewhat like the GUPPY IA except that they were not equipped with the latest sonar, fire control systems and ESM.

The GUPPY IB boats and where they were sent:

USS Barb (SS220) – (sent to Italy), USS Dace (SS247) – (sent to Italy), USS Hawkbill (SS366) – (sent to the Netherlands), USS Icefish (SS367) – (sent to the Netherlands), USS Jallao (SS368) – (sent to the Netherlands.)

## GUPPY II



U.S.S. Corporal (SS-346)

The GUPPY II conversion was generally similar to the GUPPY I with the major difference being the sail.

The addition of three new masts, snorkel induction, snorkel exhaust and ESM mast, required more room in the upper portion of the sail. The structure was changed to support the new masts.

There were two different sails approved by BuShips. The Portsmouth Sail had a thinner top, curved trailing edge,

square windows and a sharper lower forward edge. It was put on all boats which used the government plans for the conversion.

The EB sail had a straight trailing edge, round windows, a wider top and a more rounded forward edge. Some boats with a Portsmouth sail had the SV-radar with the large screen. Those boats needed extra room to house the antenna, thus had a bulge at the sail top. Later mods put the SS or SS2 radars on these and other boats which had a smaller antenna and had an indicator with interlocks which allowed the mast to be housed only with the antenna in certain angular positions.

All boats converted during the GUPPY II program which had high speed drive motors with reduction gear had these replaced with low speed direct drive motors of 2500 hp per shaft.

The battery wells were enlarged to accept 504 GUPPY cells in four batteries. The boats had their bows replaced and the entire superstructure streamlined.

The conversion to the GUPPY II models started in 1947 and lasted for 5 years.

The following were the GUPPY II boats:

USS Catfish (SS339), USS Clamagore (SS343), USS Cobbler (SS344), USS Cochino (SS345), USS Corporal (SS346), USS Cubera (SS347), USS Diodon (SS349), USS Dogfish (SS350), USS Greenfish (SS351), USS Halfbeak (SS352), USS Tiru (SS416), USS Trumpetfish (SS425), USS Tusk (SS426), USS Cutlass (SS478), USS Sea Leopard (SS483), USS Odax (SS484), USS Sirago (SS485), USS Pomodon (SS486), USS Remora (SS487), USS Volador (SS490), USS Amberjack (SS522), USS Grampus (SS523), USS Pickerel (SS524), USS Grenadier (SS525)

## GUPPY IIA



U.S.S. Razorback (SS-394)

Much like the GUPPY II, the IIA streamlined the boat, installed a new sail, a GUPPY bow, and new motors where

necessary.

One of the forward engines was removed. In this space, air conditioning plants and refrigeration units were installed. Some boats had the high pressure air compressors relocated to the lower level of the forward engine room.

The chill box and freeze boxes were moved to the forward end of the after battery under the galley. Sonar was moved to the space now available in the forward end of the pump room.

The GUPPY IIA had the same outward appearance as the GUPPY II, except the IIA had only three diesel exhaust outlets and the II had four.

These were the GUPPY IIA's:

USS Entemedor (SS340), USS Diodon (SS349), USS Hardhead (SS365), USS Jallao (SS368), USS Menhaden (SS377), USS Picuda (SS382), USS Bang (SS385), USS Pomfret (SS391), USS Razorback (SS394), USS Ronquil (SS396), USS Sea Fox (SS402), USS Threadfin (SS410), USS Stickleback (SS415), USS Thornback (SS418), USS Trante (SS420), USS Trutta (SS421), USS Quillback (SS424)

### GUPPY III



U.S.S. Corporal (SS-346)  
(after GUPPY III conversion)

A problem that became evident in the mid-1950 operations was the increasing amount of electronic equipment that was required on a submarine. The ESM equipment, the sonar equipment and the new fire control computer took up a lot of space.

Certain boats, which already had the majority of the GUPPY conversion work done (GUPPY II) and in decent condition, were taken into the shipyard. There, they were cut in half and lengthened with a new 15 foot section.

The extension was in the forward end of the control room and created a new space for sonar. (USS Tiru was only lengthened 12.5 feet instead of 15.) The Conning Tower was renewed with an additional 5 foot section to accommo-

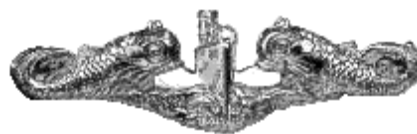
date the Mk 101 fire control system and Mk 37 director.

The GUPPY III conversion was accomplished as a part of the Fleet Rehabilitation and Modernization (FRAM) program. These four-battery, four-engine boats became GUPPY III. The "Northern Sail" was also added, as it was on other classes of GUPPYs, in order to get the bridge higher which allowed it to be manned in severe weather.

USS Tiru retained its three engine arrangement.

The GUPPY III boats:

USS Clamagore (SS343), USS Cobbler (SS344), USS Corporal (SS346), USS Greenfish (SS351), USS Tiru (SS416), USS Trumpetfish (SS425), USS Remora (SS487), USS Volador (SS490), USS Pickerel (SS524).



*(continued from "ORPHANAGE," page 9)*



Ben and other volunteers doing some much needed repairs.



The entrance to the orphanage. How is your Spanish? Any translations?

**Return To:**

U. S. Submarine Veterans, Perch Base  
13210 N. Lake Forest Dr.  
Sun City, AZ 85351-3252

<http://perch-base.org>



**Next regular meeting - Feb. 14, 2004  
John J. Morris America Legion Post #62  
10995 N. 99th Ave.  
Peoria, AZ 85345**