

# Potomac River Yacht Clubs Association

Volume 11

Issue 1

February 1999

<http://members.aol.com/prycanews>

## Officers 1999

### Commodore

Mark Viehoever  
(Tantallon)

### Vice Commodore

Monica Lovell  
(Ocoquan)

### Rear Commodore

Phil Bolin  
(Aquia Harbour)

### Secretary

Andrea Storey  
(District)

### Treasurer

Steve Wexler  
(Ocoquan)

### Fleet Captain

Curt Johnson  
(Aquia Harbour)

### Immediate Past Commodore

Steve Donock  
(Mount Vernon)

### Members-At-Large

Tim Abel  
(Prince William)

Bonnie Breneman  
(Mount Vernon)

Skip Eslinger  
(Capital)

Wayne Kuster  
(Swan Point)

## A New Year Begins

Mark Viehoever, Commodore  
Tkfive@aol.com

First. congratulations to Steve Donock on a *very* successful year! All activities and events went exceptionally well. Judging from the feedback, cardboard boats will be back again at the Float-In.

With the warm fall weather, this year's Parade of Lights in the Washington Channel was a big success again, with well over 30 boats from five clubs and several other marinas.

PRYCA's and Prince William Yacht Club's Tim Able and others were instrumental in reducing the personal property tax so low in Prince William County that the cost of collection now exceeds the tax—so it goes uncollected.

We've had a lot of interest from several clubs interested in membership. The Board and Delegates will act on an application from one of these at a special Delegates meeting at the Change of Watch.

Congratulations to Commodore Penny DeMarco and the Bridge of CBYCA on a fabulous Change of Watch at the Naval Academy! Great food, Great music, and some great people from all around the Chesapeake!

Now a quick listing of PRYCA goals for 1999:

### Activities and Events

- Continue current activities and encourage participation
- Continue emphasis on boating safety, ecology, and nautical skills
- Examine Float-In locations and schedules for 2000 and later years
- Encourage activities in mid- and lower- Potomac, including Cobb Island Days

## Communications

- Exploit information systems, especially internet, including PRYCA site

- Increase speed, attractiveness and utility

## Membership

- Continue to attract additional clubs

- Review and update PRYCA Handbook

## Coordination

- Continue to improve coordination and cooperation with other relevant boating organizations

- Encourage boating support for service organizations

## Financial

- Maintain a solid financial foundation

- Increase variety and value of PRYCA role and activities

In addition to these stated goals, there will be some important issues and policies brought forward, including the proposal by USCG on Mandatory Boating Education. Rear Commodore Phil Bolin has arranged for a spokesperson from USCG to speak at the Delegates meeting, February 1<sup>st</sup> at Mount Vernon Yacht Club.

The Qualifications Committee will be pursuing interest from several clubs in joining PRYCA.

Capital Yacht Club's own IPC Jim Forrest is now President of Washington Waterfront Association. Jim and WWA have a strong interest in bringing tall ships back to Washington. Also, in conjunction with the Cherry Blossom Committee and Festival, the WWA is starting the Cherry Blossom Parade of Lights to begin Saturday April 10<sup>th</sup> at 8:00 P.M. We are investigating several sources of white lights.

Other events worth noting here are Cobb Island Days—and I'm sure you'll be hearing more about that from Don Thayer of Cobb Island Yacht Club. Capital Yacht Club will again be hosting the Easter Seals Cruise for Kids on June 27<sup>th</sup>. This event is very rewarding for participants to see these special kids having such fun. This entire event is insured by Easter Seals.

A special thanks goes out to PC and Newsletter Editor Ned Rhodes not only for the newsletter, but for the tremendous job he's done developing, maintaining, and updating the PRYCA web site. If you haven't checked it out, you can get there at

<http://members.aol.com/prycanews>.

You'll find a lot of interesting information there including a calendar of activities and events, and links to clubs and other organizations.

Thanks to the members of the Board for their exceptional work both in the past and in the future, and I look forward to seeing you up and down the Potomac.

### From the Vice Commodore

Monica Lovell

Well, the Change of Watch has come and gone and what a wonderful evening it was. Congratulations to Commodore Mark Viehoever. I look forward to serving under his "command." I would also like to congratulate IPC Steve Donock on a job well done and thank him for his guidance throughout the past few years. Thanks Steve!

With boating season ready to get under way (next month??!!), I wanted to call your attention to an article (which appears later on in the newsletter) from the Winter 1998 issue of *PassageMaker* that I believe is very important to every boater. The subject is towing. Now, many of you may ask,

"Why an article on towing?" Well, as far as I am concerned, this is a very important topic due to the fact that not only is it your obligation as a boater to render assistance to a fellow boater in need, that "boater in need" may one day be you. We all run the risk of having to be towed or run into someone who needs to be towed. So, you should know how to tow a vessel, as well as be towed. As the article states, "Tossing a tow line to a disabled motor boat seems simple enough, but there is an art to doing it successfully and safely." I hope you enjoy this very informative article.

### From the Rear Commodore

Phil W. Bolin

[Pwbolin@earthlink.net](mailto:Pwbolin@earthlink.net)

540-659-4358

This is the first newsletter of 1999. I'm writing this on 13 Jan 99. It is 49.5 degrees. It's almost Spring! I can feel it.

### Do you know about Delegate meetings?

- 7:30 PM, 1 February at Mt Vernon Yacht Club,
- 7:30 PM, 5 April at Tantallon YC with a special invite to Club Commodores,
- 1:00 PM, 11 September at Swan Point, and
- 7:30 1 November at Capital Yacht Club that includes elections.

Yes, there are just 4 delegates events. They are important for the PRYCA. In February we'll have the Coast Guard talk about mandatory boating education. At the April Tantallon meeting Commodores are asked to preview their club's events. A great dinner at a reasonable price. Don't miss it Commodores! The Swan Point event can include golf and a great boat trip to the place as it is a Saturday. And most important, election night in

November. It is never too early to talk about who may want to serve on the PRYCA Bridge and Committees. If you're interested inform a Bridge member.

### **Events**

There are several events coming up, sponsored by the PRYCA.

- First is the PRYCA Safety Day at Mt Vernon. Held 24 April it will include safety instruction and a great big bring your own and share dinner. I've been to most of them and it really is a great way to start the season. See the flyer that Bonnie Breneman, PRYCA MAL, prepared later in this newsletter.

- 15 and 16 May is the Blessing of the Fleet in the Washington Channel. This event includes a dinner on the 15<sup>th</sup> and the Blessing on the 16<sup>th</sup>, usually attended by over 100 boats. A great event I attended last year, with a firm commitment to go again.

- On the weekend of 19/20 June, Cobb Island Days is being hosted by the Cobb Island YC. It is considered to be and supported as the PRYCA Mid-River event for the year. An old marina that has been purchased by new owners proves to be a great place for us to tie up. The event includes a host of activities that can be fun for everyone. Cobb Island YC is a great host. They are sending registration packages to all Yacht Clubs. If you don't get one, please call Commodore Don Thayer at 301-259-2166. I hope to see many of you there this year.

- The PRYCA Float-In will be held at Ft. Washington 16-18 July 99. Last year over 200 people jumped up and down, clapped, and laughed forever while watching the "new" boat building and rowing contest. You'll see that and more in 1999. Plan on making this a major event for your club. We promise you great food...great fun...



and some of the best sea stories you'll ever hear. See you there.

• 17 to 19 Sept at Tantallon is the PRYCA Fall Event. Everyone who has gone claims it is the best way to start getting ready for winter...and of course that is doing summer things and ignoring what is likely to come later in the fall. Plan on it.

• For those hardy folks, don't miss the 4 Dec 99 Parade of Boats and Lights in the Washington Channel.

That's all for this article. I am really looking forward to meeting many of you and enjoying our shared interest in boating.

See you on the water...and at the PRYCA events.

**Summary of Board Minutes**

January 5, 1999  
Capital Yacht Club

**Present**

- Commodore Mark Viehoever
- Treasurer Steve Wexler
- VC Monica Lovell
- Sec Andrea Storey
- RC Phil Bolin
- MAL Bonnie Breneman
- MAL Skip Eslinger

**Others Present**

- IPC. Steve Donock
- PC Penny Orth
- PC Bud Clark
- MAL Tim Abel
- MAL Wayne Kuster
- PC Ned W. Rhodes

**Old Business**

- Parade of Lights with 2 competitions and the holiday party were very festive and nice.

**New Business**

- Organization – announcement of Committee heads will be emailed when Comm Viehoever completes it.
- Newsletter
  - A new schedule was established for production of the newsletter as follows:
    - Newsletters will be produced for February, July, and September with flyers and advertisements of events between newsletters.
    - Deadlines for newsletters will be the Friday that is at least 2 weeks before the Monday of the Delegate's meeting where the newsletter is distributed.
- Future events
  - Safety Day – 1:00, Apr.24. Bonnie will send out flyers.
  - Blessing of the Fleet – Mark will meet with Phil and Curt to discuss..
  - Float-In – Ft. Washington, July 16-18. A committee of 7-8 non-board persons will be organized within a month to begin planning the events. This year we may decide that the dinghy built in a prior event will be used in the race.
  - Middle Potomac Event – Cobb Island Days, June 19 (4:30)-20, 1999 PRYCA will endorse this event and sponsor it as a mid-river event. Don Thayer, CIYC will shortly send out a package to every club with all information. They intend to have competitions, arts and crafts and promotion of 4 nearby restaurants. CI Marina was purchased recently and the new owners are committed to improving the facilities (restrooms/showers, docks).
- Bud Clark proposed a Silver Stars (Past Commodores) organization that will assist the board whenever needed and be a continuum of information. An alternate suggestion was a chapter of the International Order of the Blue Gavel (IOBG) for similar functions. This will be discussed further at future meetings.



Respectfully submitted,  
Andrea Storey



### **From a Member At Large**

Southern Region Clubs  
Wayne Kuster  
301-259-0061  
wjkuster@aol.com

I would like to wish all of our members a Happy New Year, with a safe and enjoyable boating season in the upcoming year.

I would personally like to thank my Clubs for the great turn out at our 1999 Change of Watch Dinner and Dance. A good time was had by all. A special thanks to Cobb Island Yacht Club, Commodore Don Thayer, Colonial Yacht Club, Commodore Carey Geddders, and my club, the Yacht Club at Swan Point. We were well represented. I hope we have the same participation in some of our upcoming events.

I feel the PRYCA has a outstanding calendar of events for the 1999 boating season including some in our area. I would like to hear from my clubs on any activities or events you would like to share with the PRYCA or local clubs.

We have currently two events on the PRYCA calendar, Cobb Island Days June 19th & 20th, and the PRYCA Board and Delegate Meeting at Swan Point.

The Cobb Island Yacht Club is one of the co-sponsors of Cobb Island Days, and Don Thayer their Commodore has put together a great package for our members to attend this event. The Cobb Island Marina has been purchased so the Marina should be in much better shape this year and should be able to facilitate more boats and our needs. Don Thayer will have more information and a complete package for your clubs at the PRYCA Board/ Delegate Meeting and Commodores Night at Tantallon Yacht Club on April 5th.

If I can be of any help or service to your clubs, please do not hesitate to contact me, and I hope to see you on the water in the near future.

### **From the Editor**

Ned W. Rhodes

Did you see the pictures from last year's Change of Command party? Well they have been up on the web site and I will be removing them to make room for this year's Change of Command party. I was there with my digital camera, attempting to catch the important events, and they should be posted to the web site by the middle of February for your amusement.

The great thing about editing the newsletter on the day before publication is that you can insert information at the last minute. I was very surprised to be honored with the Meritorious Service award last night at the Change of Command for my work with the newsletter and the web site. I was truly suprised that evening as I was hovering around waiting to get pictures of all the award recipients and here I had to get someone to take my picture. In talking with the Honorary Captain recipient Linda Bussard and Distinguished Commodore Dave Goodman, we all were surprised and honored. These awards mean a lot to all of us. Thank you.

As time permits, I try and make improvements to the web page. The next big addition will be the PRYCA schedule for the coming year. A few clubs have responded with introductory paragraphs and you will see them featured on the site with the appropriate link to the club web site. Check out the Web site at

<http://members.aol.com/prycanews>  
and email me at  
[rhodesn@softsysgrp.com](mailto:rhodesn@softsysgrp.com) with additions  
or corrections. Note that this newsletter

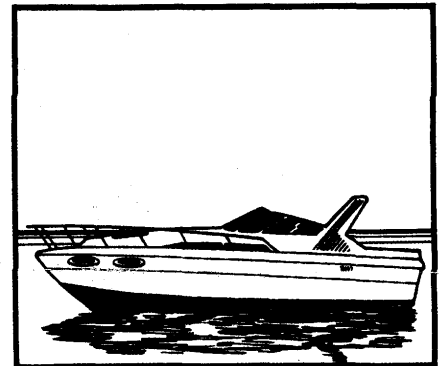
as well as the last few are up on the web site in Adobe PDF format for downloading. Tell your membership where they are.

### **From the Treasurer**

Steve Wexler

In any organization, the responsibility for collecting dues falls upon the broad shoulders of the Treasurer. And the PRYCA Treasurer is up to the task. We recently sent out invoices for 1999 dues. If you received the invoice and you're the right person—what's the hold-up?—just mail your check today. If you're not the right person—Find out who has the checkbook in your club and get the invoice over there as soon as possible!!! If you don't know if you're the right person or not, here's a simple test: the payment to PRYCA is due now—either you make out a check or find someone who will. It's real simple—we'll take money from any source right or wrong. But we want your money now! Your Bridge has big plans for the upcoming year—and a small budget, but a positive budget nonetheless.

Talking about the 1999 PRYCA budget, just look to the next page.



POTOMAC RIVER YACHT CLUBS ASSOCIATION  
1999 BUDGET

Income:

Dues	\$1,200
Float-In (Net)	\$1,500
Merchandise (Net)	\$ 200
Interest	\$ 100
<b>Total Income</b>	<b>\$3,000</b>

Expenses:

Change of Watch (Net)	\$1,750
Newsletter (incl. Postage)	\$ 500
Roster/Handbook	\$ 200
NBF Dues	\$ 200
Bank Service Charges	\$ 50
Miscellaneous	\$ 300
<b>Total Expenses</b>	<b>\$3,000</b>

See how easy it is to balance a budget—if only the Federal Government would listen (sigh!!). And you might ask: if it's that basic, what does the Treasurer really do? My answer is give me a call, and you can volunteer for the position in future years—it's really that simple. (And by the way—I also have a fence that needs whitewashing).

See you on the River.



**Boats Still Qualify as  
Second Home**

BOAT/U.S. Reports, January 1999

Fortunately for boat owners, Congress did not tamper with federal tax law this past election year and the interest deductions for mortgages, including loans on boats, remain intact. This important provision was preserved in 1986, due to BOAT/U.S.'s lobbying efforts, and has been successfully defended ever since.

Provisions going back to 1986 allow a boat to be considered a second home for tax purposes, similar to land-based second homes such as vacation condos and mobile homes. If certain criteria are met, mortgage interest paid on a boat loan should be deductible.

Under IRS rules, a boat is considered a "second home" if it has "basic living accommodations" including "sleeping space, cooking and toilet facilities." (The IRS does not get any more specific than that.) The boat loan must also be "secured," which means the boat is held as collateral by the lender. There are no minimum days of personal use of the boat required by the IRS, unless the boat has been rented during the year.

As in the past, the second home mortgage interest deduction should be entered on Schedule A, Itemized Deductions. Which line you enter the amount of interest paid on depends upon whether or not your lending institution reported your interest paid with a Form 1098. If you did not receive a 1098, enter the amount on the designated line and provide: the name of the person or institution to whom loan payments are made; their address; their employer identification number or social security number.

There has been much confusion in recent years over having or not having a Form 1098. Many lending institutions



will not issue a Form 1098 for boats as a blanket policy because they are not in a position to determine whether or not the boat fits the criteria of a second home. However, the taxpayer is not required to have one in order to qualify for the interest deduction, i.e., the 1098 is not a "test" of deductability.

For boat owners who used a home equity loan to purchase a boat, that interest should also be deductible with no restrictions on boat type or amenities.

More detailed instructions may be found in the 1998 IRS Form 1040 booklet which should be arriving in mailboxes any day. Internet surfers may also check out the IRS Web site where information, forms and other tantalizing tidbits can be found at [www.irs.ustreas.gov](http://www.irs.ustreas.gov).

Taxpayers in the higher tax brackets should also be aware that if they fall into the "alternative minimum taxpayer" category, the rules are different and many deductions may not apply. All boat owners are advised to consult their own personal financial or tax advisor on specific boat loan, chartering or other tax questions.

### **Potomac River History**

Phil W. Bolin  
[Pwbolin@earthlink.net](mailto:Pwbolin@earthlink.net)  
540-659-4358

"This Was the Potomac," by Fred Tilp provides a great information on the Potomac River. I also found a new book on the Potomac, "Discovering the Tidal Potomac", by Captain Rick Rhodes. It is a cruising guide and boating reference for all who boat on the Potomac. I recommend both books to any Potomac River boater. Your local marina will probably have the Rhodes book. The one by Fred Tilp will have to be bought through a local bookstore. Some info from Fred Tilp's book includes:

Marine Disasters were more common place on the River in early years:

At 11:45 am, Friday, August 8, 1873 the Wawaset a 258 ton steamer licensed to carry 50 passengers...with 120 passengers aboard...five minutes from making a landing...40 miles south of Washington DC...burst into flames. In 10 minutes, and in less than 8 feet of water, the \$40,000 ship burned to the water's edge and sunk, killing over 70 people. William Emerson testified, "I stepped into the passageway to get life preservers for my nephew...they were tightly stowed in the ceiling compartment...moments later, the entire center section of the ship was enveloped in flame...passengers were panic stricken and frantic...it was the most horrible scene I have seen." This was the first catastrophe entailing extensive loss of life on the Potomac since the introduction of steam in 1817, but there were others.

From a 29 February 1844 newspaper article, "yesterday, the U.S. Steamship Princeton, which had left this pace about noon, on a pleasure excursion down river, with her colors at half mast. About three miles below town, she fired one of her guns. It burst at the breech, killing Secretary of State Abel Upshur and Secretary of the Navy Thomas Walker Gilmer, among others."

From an 18 August 1862 newspaper article, "On Wednesday night, a collision occurred off Ragged Point, VA between the steamers George Peaody of Baltimore and West Point of New York. The Peabody was southbound from Aquia Creek and loaded with Government stores. The West Point, northbound, had 297 convalescent troops and 3 females on board. After the collision the West Point filled immediately and sank. The Peabody picked up survivors and

returned to Aquia Creek. Whistle signals were exchanged and all running lights were burning"...someone was just not minding the store.

An another article on 4 January 1886. The excursion steamer Armenia, lying at the foot of Wolfe Street caught on fire from a small stove placed in the hold to prevent pipes from freezing. Before the flames could be extinguished, the steamer was so much damaged that she was considered a total wreck.

In 1891, on 3 September, a fire on W. W. Corcoran, lying at Seventh Street wharf was so strong the steamer was loosed from her moorings and pushed out into the stream in order to save the other boats at the wharf.

On 10 July 1911 "the burning of the steamer, River Queen, at her berth in Washington last Saturday night makes the ninth river steamer destroyed by fire in very recent years. The boat, a relic of the Civil War days and the favorite of President Lincoln, burned to the water's edge at an early hour this morning while at her dock a the foot of Seventh Street."

Besides some tragic ship loses due to fire and collision, ice on the Potomac was a major problem in the 1800s.

An 1875 story in the Alexandria Gazette says, "the ice blockade was more complete this morning than it has been this winter, and persons were walking across the river as freely as though they were treading upon solid ground."

In 1822 there was two to three feet of ice on the River the whole way to the Bay.

In 1827, the people of Georgetown passed freely across the ice to Alexandria and in 1835 there were six days in January where the temperature was recorded at 16 degrees below zero.

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## Potomac River Yacht Clubs Association

Safety Day 1999  
hosted by  
Mount Vernon Yacht Club  
with the assistance of  
U.S. Coast Guard Auxiliary Flotilla 14-06

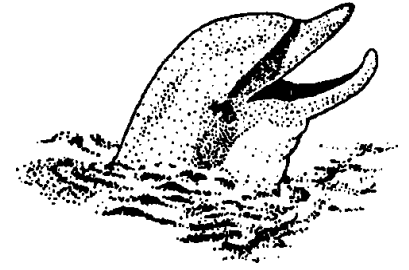
24 April 1999  
Mount Vernon Yacht Club, Dogue Creek, Virginia

### Schedule of Events

- 1:00 PM    Courtesy Marine Examinations by the Coast Guard Auxiliary (Until 4:00 PM)
- 1:15 PM    Boating Safety Videos shown throughout the afternoon
- 1:30 PM    Boating Safety Presentation on the Point (Displays, literature and questions answered by the Coast Guard Auxiliary all afternoon)
- 2:00 PM    Fire Extinguishing Demonstration at the Fire Pit on the Point
- 2:30 PM    Visual Distress Signal Demonstration on the Point
- 3:00 PM    Towing Safety Demonstration (at the Gas Dock)
- 3:15 PM    Special for the Children - Boats and Kids by the Coast Guard Auxiliary
- 4:00 PM    Social Hour
- 5:00 PM    Pot Luck Dinner Begins (Grills Available)
- Tides:     24 Apr 99 H: 0402 L: 0957 H: 1617 L: 2239

Vessel skippers wishing to remain overnight are asked to notify PRYCA Member at Large, Bonnie Breneman at 703-550-6023 or seabrat1@juno.com by 17 April 1999.

Upon arrival at Buoy 67, contact Last Resort or Seabrat on VHF Channel 16 or 72. Some rafting may be necessary in Dogue Creek, and shuttle service will be available.



**Continued from page 6**

In the winter of 1897-98 teams drove up and down the river to the Chesapeake Bay, and all boat traffic was stopped for weeks.

In February of 1881, the Washington Post covered the "Great Ice Jam." At 1:30 a.m., 12 February 1881 the tidal rise and warmer weather finally allowed the ice in the Potomac to break up and start flowing down the river. Boats were pushed ashore, wharfs were destroyed, and the tide rose over nine feet on all wharves. A large section of Long Bridge (14th Street) was carried away. Hotels, depots, houses and stores were flooded. Luckily the winter climate along the river has shown a steady tendency to become milder.

There is a good detail on many of the above events and much more in the Tilp book, "This Was the Potomac." I hope you get a chance to read it. The last chapter provides a few tidbits of information gained as the author wrote the book. Here are a few.

The Potomac River is named for the Patowmeck (translated "landing place for goods") Indians and was drawn in on John Smith's map of 1608.

The Potomac originates at a spring located on a West Virginia farm near Kempton MD.

The Anacostia River (translation "a town of traders") was previously named St. Isadores Creek; changed to St. Thomas Bay, then to Eastern Branch and in 1927 officially termed Anacostia River.

Ft. Washington covers the 1200 acres originally owned by Dr. Luke Barber. Major Charles L'Enfant designed the Fort, which in 1811 had 13 guns in the fort proper and 6 on a tower designed for defense from the rear. The present fortification, laid out in 1815, was built of stone from Occoquan and trimmed with Aquia Creek sandstone.

Mattawoman Creek was probably named for the Indian village Mattaughquamend that means, "where one goes pleasantly."

Mallows Bay was named incorrectly after its landowners, the Marlow family.

Wades Bay was named for Zachariah Wade, the first landowner of the area in 1665.

Pope's Creek was named for the original grantee, Francis Pope, in the seventeenth century. Prior to the 1940 "crab-house development" this creek was one of the places on the river having the most interest for the artist, historian, antiquarian, and entomologist.

Cobb Island was granted to Captain James Neale, a privateer master-owner in 1642. At the Vickers' house on the island, the first intelligent speech over wireless radio was sent and received in 1900 by Professor Fessenden.

The original settlers called Piney Point, Pine Poynt in 1707. It served as the summer social center for Washington's dignitaries from 1820 to 1910. James Monroe located the first summer White House here in 1820. A fire of 2 November 1886 practically destroyed the resort.

Aquia Creek probably takes its name from the Indian village Quiyough (translated "tall or high land"). At its headwaters is a bronze tablet dedicated to the memory of the Jesuits of 1580. The first woman in America to demand equal rights for women was Margaret Brent of St Mary' City. She eventually moved to Aquia where her brother lived. She obtained grants of many thousands of acres. Aquia Creek farms suffered more from the depredations of bored Union soldiers during the Civil War than other areas. Most of the trees were cut down, livestock was stolen and houses burned, causing the

number of inhabitants to drop even below what it was in Revolutionary War times. By 1890, the trees had re-grown to firewood size. In 1872 people counted 6 steam saw mills, 10 gristmills, 24 farms, 33 sailing vessels, 4 steamers, and 2 tugs with barges in the area. The many underground freshwater springs in Aquia Creek stimulated the growth of underwater plants and kept the Creek free of ice, making this area a "wealthy man's hunting paradise." The New York Yacht Club had a station at Simms Point for over a decade.

See you on the water.

### **All About Bilge Pumps**

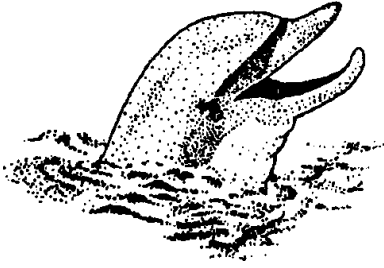
David Pascoe  
www.yachtsurvey.com

Those Essential Devices for Keeping  
Your Boat Off the Bottom

Oh, what a boring subject, right? Yeah, I agree, reading about bilge pumps is not too thrilling. But this is a subject which I've been harping on for a long time, apparently without a lot of success based on the continuing and overwhelmingly casual attitude that boat owners have for their bilge pumping systems.

Just to give you a little background, I come from a family where marine surveying is something of the family tradition. Years ago, a large part of our family business was handling marine insurance claims. The hundreds of boats that sunk every year helped contribute to a very brisk business. Having spent many years investigating why they sank, I think I have a pretty good idea why. It's the casual attitude of both boat builders and boat owners toward bilge pumps.

Sail boaters are the absolute worst in this regard. For some strange reason, many of them just don't think that bilge



pumps are important. Somehow they rationalize the idea that nothing is ever going to cause their hulls to suddenly flood, so a minimal pumping system is all that is really needed. As in just one pump. I never ceased to be amazed at the number of sailors who argue with me that one pump is enough. After all, the builder built it that way, and they have that nifty manual pump back there in the cockpit and that can really pump a lot of water. More about that later. FYI: Proportionately more sailboats flounder at sea even though powerboats outnumber them 8:1.

Of course, sailors are not alone in this attitude. For every sailor who thinks little about bilge pumps, there are probably three power boaters with the same attitude. So why the widespread lack of concern? Well, its the same old problem of lack of experience; it's not until they have a problem that they become convinced of the seriousness of it. Its mainly the people who've had their hulls flooded or even sunk that take the matter of bilge pumps seriously. It's called learning the hard way. I can understand that. As a kid, I owned numerous small boats, and I can't begin to count the number of times they sunk because it rained hard, or the boat was leaky, and I had no bilge pump at all. Or if I did, I wasn't paying attention to whether it worked, the batteries stayed charged or whatever.

Unfortunately, sinking at the dock can be the least of your worries. The situation that can really get your attention is when you are at sea and something really big goes wrong, and now you are faced with the prospect of the boat going out from under you. Like having an exhaust hose fail and the engine pumps your hull full of water without noticing that until it's too late. That one happens a lot. Or a sea cock or other through hull fitting lets go because of some corrosion activity

that went undetected because the sea cocks which are now 12 years old had never been taken apart and inspected. That happens a lot too. But when it happens at sea, and the boat has an inadequate pumping system, you've got a disaster in the making. And if you've got your family aboard with you, well you may have to live with a guilty conscience for a while.

Let's start with the premise that next to the integrity of the hull, the integrity of the bilge pumping system comes next. Not the sails, the engines, the interior furnishings or the fancy electronic gizmos, just the plain old, lowly bilge pumping system. Bad things happen, that's why the government mandates that you carry life jackets aboard. But an even better approach is to have a good pumping system so that you have potentially less need for those jackets.

**What makes for an adequate system?** This is a question I've been struggling with for years. Unfortunately, there are no pat answers because the criteria for an adequate pumping system depends on the style of the boat, not merely its size. Some types of boats are more vulnerable than others, like sport fishermen and open boats. In any case, for every type there is a basic minimum. The table below lists what I think that minimum is based on boat length.

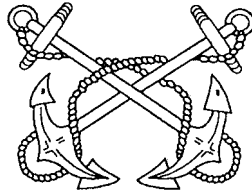
Boat Length	No. Pumps	Total Capacity - GPH
16 - 20	2	2500
21 - 26	2	3000 - 3500
27 - 35	3	3500 - 4500
36 - 42	3	6000
43 - 49	3 - 4	8000
50 - 59	4 - 5	9000 - 10,000
60 - 60	4 - 5	10,000+

There are two factors which must be considered, the capacity of pumps and the number of pumps. The number of pumps is important from the standpoint that bilge pumps are not reliable because they are electrical devices submerged in water. Contrary to common belief, the pumps themselves rarely fail; its the electrical system from which they operate that is usually the cause of the failure. Because of this, one way to improve reliability is with redundancy, or increasing the number of pumps to decrease the odds of complete loss of pumping ability.

Added to the equation is the fact that the pumps are only as good as the battery system supplying power to them. There's not much point in having a good pumping system if the battery system is not up to running them for the necessary period of time. We'll get into more about that in the Battery Power section later.

**Evaluate the number of compartments:** While the table above gives us a general idea of how many pumps are needed, it can't take into account how many compartments there are in the hull that need to have pumps. Every hull is different, so you have to evaluate your boat from the standpoint of the number of compartments that need to be fitted with pumps, as well as the best location to have redundancy. To evaluate the number of pumps you need, take a look at the hull and determine where the low point in the bilge is. Water will accumulate at the lowest point, but you need to know where that is. Next, determine the number of watertight compartments or hull dividers such as bulkheads or high floor frames that prevent free flow of water from one section to the next. That means determining whether there are limber holes in those dividers or bulkheads.

As a general rule, every compartment that doesn't allow free



flow of water from one to the other needs to have a bilge pump. At some point, water can rise in this compartment until it finds a way to flow through the bulkhead (such as all those holes for wiring and plumbing) or over the frame into the next. And while this may not sink the boat if this happens, rising water in a compartment can cause a tremendous amount of water damage. This is actually more of a problem in small boats than large ones. That's because small boats often have very shallow bilges where a small amount of water in the bilge can end up flooding the cabin sole and cause damage. Yet this can also be a problem for shallow bilge sailboats. Especially for planing power boats, keep in mind that bilge water will flow to the stern while underway if there is free communication, or it will be stopped at water tight compartments. That's why you need to evaluate carefully the location pumps need to be installed.

**Determining the number of pumps:** Now that you know the number of compartments that need pumps, we next relate this to where the water goes when the vessel is at rest, and while underway. For sailboats, that's pretty easy because the fore and aft trim doesn't change much, so the center bilge is usually the target area. For most powerboats, the water will accumulate in the mid section at rest and aft while underway. Based on that, you will need the redundancy at these two locations. Any other compartments can get by with only one pump, of a size and capacity needed for normal dewatering.

For any twin engine powerboat over 35 feet (generally excluding trawler types), having four pumps is a good idea; you want the back ups at both points where water will accumulate. For outboard or stern drive boats with the engines aft, the water will always run aft, so the back ups are

only needed at this location. For sailboats with a keel sump, this is the only location where redundancy is needed, except for larger boats with a dedicated engine room that definitely should have dual pumps because of the potential for plumbing system failures, a damaged stuffing box, exhaust system and the like.

**Outboards and Stern Drives:** These boats require special attention to pumping systems because of the weight of the engines. Any water in the bilge runs aft and it requires very little water to sink them, particularly when they have self bailing cockpits. A back-up pump should be considered a necessity. The pumps should not be located under the engine where you can't see or reach it. If it is, move it forward to where you can reach it.

The problem with most of these boats is that they have no battery charger, so as soon as the batteries deplete, the pumps don't work. That's another reason so many of them sink. The only reasonable option is to install a marine charger and shore power system. Adding larger batteries will help, but somehow you have to keep them charged up.

**Capacity of Pumps:** I will start here with a word about those little 4" square boxes that companies that make them call bilge pumps. Yep, I'm talking about the Rule 500 and 800 pumps. Only a fool would believe that one of those things could pump 500 gallons per hour; they can't and they don't, not even in a horizontal direction, yet alone vertically. I am absolutely adamant that those things should never be used as a primary bilge pump. Not only is the capacity inadequate for just about any boat except a dinghy, all it takes is a bit of string or hair tangled in the impeller to bring it to a halt. They're okay for use for dewatering small areas where water might accumulate—like outboard of stringers, but never as a

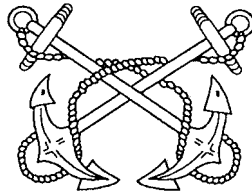
primary pump.

Except for those little buggers, there's no doubt in my mind that Rule makes the best pumps so I'm going to use these as examples. The most common sizes are the 1500 and 2000 pumps, with big leaps up to 3700 and 5000. We've tested many of these pumps and the one thing to be aware of is that they do not pump at those rates. As near as I can tell, those numbers are for pumping water horizontally, but when you have to pump the water up and out (called static head) those numbers will drop dramatically, by 50% or more when you're moving water up 3 to 4 feet.

My concept of the ideal pumping arrangement is to have two pumps at the one or two points where the water accumulates, at rest and underway. Let's say you have a 40 foot power boat. In that case I would choose the Rule 2000 and 3700, two of each, using the 2000 as the primary pump and the 3700 as the back up. Why not the other way around? Mainly because the smaller pump has a lower power demand which is more desirable for normal dewatering. No need to be activating the high capacity pump for everyday needs. The 3700 serves as both a back up AND an emergency pump. The 3700 has a 19 amp draw, which can deplete batteries fast; in an emergency situation, you will run the engine to keep the batteries charged.

For sailboats, you really have to pay attention to how high the water is being pumped. Needless to say, a weak, low capacity pump is not the way to go. For a 40 foot sailboat, pumping the water up 3 feet or more, I'd consider two 3700's the best choice. I have seen 2000 pumps four feet down in the keel with only a small stream of water dribbling out the side. Don't forget that resistance in the discharge plumbing also retards the flow.

**What Brand?** After several decades



of seeing these pumps in service, I have no qualms about recommending Rule pumps; they're the best. They are, of course, centrifugal impeller pumps that will not pull the last 1-1/2" of water out of the bilge. If you want a dry bilge, the only way to get one is with a diaphragm pump, and your option there are the PAR pumps (short for Peters And Russell, now ITT Jabsco). They are less reliable, but they have the advantage of being repairable, whereas Rule pumps are not. I don't recommend PAR pumps as anything but secondary pumps for dewatering as their capacity is very low, 6 gpm or less. These pumps should only be mounted in a dry, dry, dry location. Neoprene impeller pumps are also available, but I don't recommend them unless you know how to use them. They will burn up if they run dry, so you can't turn it on and walk away from it. If you use either of these types, you MUST install an inline filter to prevent debris damage to the pump.

**Pump Installation:** Considering the need for redundancy, there are two ways to install back-up pumps. You can install both at the same level in the bilge and locate the float switch for the reserve pump up higher, say 6 - 10" so that it will be activated when the primary pump fails or can't keep up. The alternative, which I prefer, is to mount the switch and back-up pump itself up higher. The reason for this is the tendency of debris in the bilge to foul the impeller over time; mounting it higher up precludes this. In either case, the installation should be arranged so that the back-up pump takes over at a predetermined water height. Preferably this should be at a level before water rises above the cabin sole (or any equipment in the bilge like batteries) and causes damage.

**Float Switches:** Those wonderful little buggers. Doncha love 'em? Yes they suffer a high rate of failure and

you're always wondering why someone can't invent a better one. Well, devising a better switch would be easy. Problem is, you wouldn't pay the cost of the thing, so we have to suffer with what we got. Actually, most switches fail not because of lousy switch design, but because of thoughtless installation or lack of maintenance. These are not self-cleaning devices. There are four things you need to consider for reliable switch installation: (1) no debris in bilge, (2) nothing should interfere with the rise and fall of the switch, (3) it must be wired properly, and (4) it must be protected from the surge of water in the bilge.

**Open Versus Covered Switches:** The enclosed float switch would seem like the ideal solution to switch fouling problems except for one thing: you can't see or test the switch. Further, the enclosed switch is just as likely to become clogged with sludge and things like hair in the bilge as the open switch. Only now you can't even see it. The only problem they really solve is water surge damage. The open switch is the better choice as long as you clean it once in a while, and locate it so that its protected from water surge.

The switch can easily be protected from surge by simply locating it within 3" of a bulkhead with the flapper facing AFT. Always AFT. See my point? If surging water catches the flapper from the front, it tears the flapper off its hinges. Okay, now that problem is solved. The next one is that you have to keep your bilge clean. Nothing, but nothing is going to survive a bilge with sludge and debris in it. Finally, all your wires and hoses have to be secured so that they don't move and end up sitting on top of the switch. Don't forget boats bounce around a lot; those things have to be well secured.

It would be my guess that well over 50% of all pump failures are caused by water getting at wire connections and

causing corrosion and high resistance. People just don't realize that corroded connections cause a power loss that can either cause the pump to burn up, or the wire connections to overheat and terminate all power flow. That's why it's imperative that the wire connections be made as high above the bilge as possible, and that they be protected against getting wet from any other source, like water dripping from above.

**Doing It the Right Way:** I recommend that the connections be made using a covered, plastic junction box, the one hole type (such as the Carlon boxes you can get for a few bucks at Home Depot), mounted on the nearest available vertical surface. Obtain a small terminal block, preferably with brass terminals. If you can't find small ones, cut a larger one in half; they're made to be cut. Attach ring terminals on the wires, wire it to the terminal block, and put the terminal block inside the junction box and install the cover. You can leave the terminal block loose inside the box so you can pull it out to check or repair connections. Be sure to mount the box with the wire hole at the BOTTOM, not the top! This is a particularly good way to install pumps in open boats and under cockpits where leaking and condensation sweating is a constant problem. Forget about butt connectors, electrical tape and silicone and heat shrink; none of these solves the water problem.

**The Discharge Outlet?** Its amazing that after all these years, so many boat builders still do not know how to properly install the discharge plumbing. You'd think any fool would realize that you can't just pump it out through a hole in the hull a couple inches above the water line without the water flowing back in. But they don't.

The discharge outlet is usually placed near the water line because the splash from the discharge goes up on

the hull side and makes a mess. So the motivation here is no splash. Fine, but you have to do something to prevent water from coming back in. That something is called a riser loop. The riser loop extends the discharge hose well above the water line to prevent this. Of course, if for any reason that discharge should go below the water line, you are right back to the reverse siphoning problem again. Unfortunately, there's no good way to deal with this short of raising the discharge higher up. Siphon breaks and check valves are notoriously unreliable because of their tendency to get clogged.

For power boats, I recommend a riser loop height of about 18" above the water line. For sailboats, you have to consider the heel angle of the hull, which means that it will probably be tapped into the cockpit scuppers or sink drain. Here you have to be real careful of judging the water line right. Sink drains often aren't high enough to tap into it safely, so be sure to check the water level carefully. It's also not a very sanitary thing to do.

Teeing into existing lines is okay as long as you understand what you're doing. The T must always induce water into an overboard on the vertical, never the horizontal plane. This is to obviate any possible backflow. Its best to use a 30 degree angle fitting; a 90 degree T causes turbulence and reduces water flow greatly.

When adding new pumps, you can avoid making new holes in the hull by increasing the diameter of your existing outlet—say from 3/4" to 1-1/4" and adding a manifold. No, you can't double up on a 3/4" outlet because it's too small and will not handle the increased flow and will restrict the pumps. Just buy a larger fitting and increase the existing hole size. If you find it easier to drill another one, by all means do that. Nor should you ever

double up on a plastic t-hull because it will break; if you have plastic, you MUST replace it with bronze. If you do add a manifold, make sure that the lever arm it creates is supported, whether its horizontal or vertical. Also make sure that the hoses are well supported so they don't kink.

**Emergency Pumps - Who Should Have Them and Why:** "It can't happen to me." That's the attitude. Just as people head out to sea without a life raft, so do they go cruising without a high capacity emergency pump in the event something goes wrong. But it can happen, and it does happen, to all those good folks who thought they'd never need it. Every time you head out, the odds increase that it will happen.

Anyone who does any long-range cruising should have an emergency bilge pump. No, I'm not talking about one of those hand pumps. Anyone who's ever tried to work a hand pump for five minutes knows that these things won't do. Even a man in good physical condition can't operate one of these things for very long. A typical disaster that could have been prevented by an emergency pump is the loss of a propeller shaft or a rudder, which opens up a hole just large enough that ordinary bilge pumps can't handle. That's where an engine-driven pump can save your boat and your life. If you're going cruising, you should have one. Period.

Yes, they are expensive to install, but they can be MORE valuable than life rafts or life jackets because it may obviate the need to ever use these things. The idea is to keep you from having to abandon your sinking boat. Engine-driven pumps are very high capacity with the volume being controlled by engine speed. They are more reliable than electric pumps because they're mechanical. The average size pump runs about 50 - 65 gallons per MINUTE, and that's a lot.

An honest 3000 GPH, a capacity that can deal with some serious hull flooding.

For smaller sailboats, installing one can be more difficult because there's no space at the front of the engine. The solution is to add a pulley to the propeller shaft and drive it from there. It has to be operated with the engine in gear, but it will still do the job. You may be able to find a split pulley (in 2 halves) that will make installation a lot easier. Instead of having to remove the coupling, all you have to do is drill a slight detent hole.

Another good option, is a suction take off from the main engine pumps. It's a whole lot cheaper, but the only draw back to this arrangement is that if you run the engine pump dry, you burn up the impeller and now you've got another problem. This arrangement is a lot cheaper than adding a belt driven pump, but if you go this route, make sure that you understand what you have to do to operate it without wrecking the engine. It takes two people. Also make sure the T-off is BEFORE the sea strainer so that you're not sucking up bilge debris into the engine.

**Battery Power:** Okay, we've covered just about everything with the pumping system except the power source. For larger boats with big batteries, this is rarely a problem. It's a huge problem for small boats where all the builder saw fit to provide were an El cheapo car battery or two. I don't care that it says MARINE on the side of it, if you're got those brightly colored, thin casing plastic batteries, it's not a marine battery. I don't care if it says "deep cycle" or that it can light up the universe, I've yet to see one that isn't a piece of junk. My auto mechanic tells me the same thing; the average car owner is replacing batteries every two years because they are junk, junk, junk. Just a big sales racket.

If you want to save bucks by using cheap car batteries in your boat, you've wasted your time reading this because your pumping system is no better than the batteries that run it. Batteries die, pumps die. Here's the deal: as batteries age, the amount of charge they hold begins to drop dramatically. Two 14 amp pumps equals 28 amps, and wired to a common 60 ampere hour battery means that the two pumps would theoretically exhaust a new battery in two hours. But it never works out that way because as the battery declines, its ability to provide power declines at an accelerating rate. When the battery is older, the problem is even worse. The average one year old 60 AH battery will barely run a 14 amp pump for 30 minutes. And if you have to pump that water uphill, it gets even less than that because the pump is straining at maximum current draw.

Do you get the picture? Take it from someone who has screwed around with cheap batteries most of his life, it is not worth fooling with those things. Go for a heavy duty commercial or marine battery. Surette, American, Exide, any of the big battery makers. You can tell if its for real if it's big, black, very heavy and costs twice as much. Good batteries are heavier because they have more lead, for one thing. You are better off with one size 8D battery than you are with two smaller, cheap ones. Capacity is DIRECTLY related to size. Paring up two small ones is no match for one large one. An 8D (250 AH) costs about \$250.00; two 90 AH auto batteries are going to cost around \$100 each, so the cost isn't that much more. A pair of 4D (125AH) will work nearly as well.

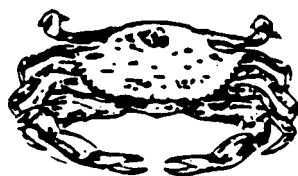
**Wiring Pumps:** The common mistake in wiring pumps is to wire them after the shutoff switch or the main circuit breaker on the panel. It happens often that someone turns off the main power without realizing that

he is also shutting of the bilge pumps. To test whether your boat is wired wrong (and many are), turn all the power off and then test the pump by lifting the float switch. If it doesn't go on, then you know what the problem is.

I do not agree with the ABYC standard that bilge pumps must have circuit protection. Far too often, the circuit breaker or fuse is the cause of a boat sinking. If you want to eliminate circuit protection, try to keep the wire run as short as possible. While it's not good practice to wire anything direct to the battery, I'd say the lone exception would be bilge pumps. If there's no other practical way, go ahead and do it. This applies to submersible pumps only. These pumps have no history of burning up and starting fires.

When adding pumps, the easiest way is to purchase the small Rule three-way switch panel which has an indicator light too. Where to find a power source can be one of the more difficult tasks, especially if you're adding a pump up forward. Don't make the mistake of tapping off some other equipment or bus. Take the time to string the wire right. Your options are to go to the main panel, direct to the battery, or from the terminals on the back of the battery switch, making sure that you get the one that's always energized. In most cases, going direct to the battery will be easiest.

No doubt someone will send me an e-mail saying "How dare you recommend violating the rules," but I am not telling you that you must go to the main panel because with many panels that is nearly impossible to do.



## Use The Right Lube Oil

Past Commodore Bud Clark

We all know that using the right lubrication in the power plants on our boats is one (perhaps the most important) key to engine reliability and long life. Many of our engines have been around for some time; in the meantime new oils have been developed, so the oils available sometimes do not match the oil specified. Since oil both lubricates and cools engines, selection of the proper oil is obviously important. To this end, here's a summary of the three oil classification systems type, viscosity and service which may be used when maintaining your boats.

- Oil Type can be Natural (mineral oils) or Synthetic (man-made). Most all modern oils contain additives, but synthetic oils are formulated for severe operating conditions (e.g., turbine engines). They are becoming more widely available, and although they have some attractive features, they may also produce some unintended results, such as seal shrinkage. Accordingly, it is suggested that the engine manufacturer be contacted for recommendations on the suitability of synthetic oils for your particular engines.

- Oil Viscosity Standards are set by the Society of Automotive Engineers (SAE) using a scale from 0 (thinnest) to 60 (most viscous). (Ratings of 70 and above are used for gear oils.) The additional designator W is used to indicate low temperature performance. For example, oil with a SAE rating of 15W-40 will perform as a relative thin oil (SAE 15) at temperatures below freezing (15 degrees Fahrenheit) during start up, but will act as a thicker oil (SAE 40) at operating temperatures; normal SAE ratings are established at 212 degrees F. These viscosity ratings

are used on car and truck engines, and are generally understood.

- Service Classifications are determined by the American Petroleum Institute (API) for specific operating conditions. Different classifications are used for gasoline and diesel engines.

- Two-stroke engine oils, for use in outboards, provide lubrication and wear reduction, while burning cleanly with minimum residue. The commonly specified standard is TC-W3., indicating a 3rd generation oil for two-stroke cycle, water-cooled engines.

- Gasoline engine oils are identified as S (for spark ignition) and a second letter. (Each of these gasoline service classifications exceeds the performance of all previous categories and can be used in their place.)

- SA: Obsolete.

- SB: Obsolete.

- SC: Obsolete; For 1967 and older engines.

- SD: Obsolete; For 1971 and older engines.

- SE: Obsolete; For 1979 and older engines.

- SF: Obsolete; For 1988 and older engines.

- SG: Obsolete; For 1993 and older engines.

- SH: Current; Introduced in 1993; discontinued after 1997, except when used in combination with some C categories.

- SJ: Current; Introduced in 1996 for all engines currently in use.

- Diesel engine oils are identified as C (for compression ignition) and a second letter.

- CA: Obsolete; for light duty engines (1940s & 1950s).

- CB: Obsolete; for moderate duty engines (1949 to 1960).

- CC: Obsolete; for engines introduced in 1961.

- CD: Obsolete; introduced in 1955 for certain naturally aspirated

and turbocharged engines.

- CD-II: Obsolete; introduced in 1987 for two-stroke cycle engines.

- CE: Obsolete; for high speed, four-stroke cycle, naturally aspirated and turbocharged engines. Can be used in place of CC or CD oils.

- CF-4: Current; introduced in 1990 for high speed, four-stroke cycle, naturally aspirated and turbocharged engines. Can be used in place of CE oils.

- CF: Current; introduced in 1994 for off-road, indirect-injected and other diesel engines, including those using fuel with more than 0.5% sulfur (by weight). Can be used in place of CD oils.

- CF-2: Current; introduced in 1994 for severe-duty, two-stroke cycle engines. Can be used in place of CE oils.

- CG-2: Current; introduced in 1995 for severe-duty, four-stroke cycle engines using fuel with less than 0.5% sulfur (by weight). Can be used in place of, CE and CF-4 oils.

These oil classifications appear in the well-known circular (donut-shaped) label on oil containers which includes, for example such statements as "API Service CG-2" and "SAE 15W-40. This information may help in selecting oil for use in your engines.

Note: The information in this article was extracted from David S. Yetman's article "Lube It or Lose It" on pages 130-132 of *Power and Motoryacht Magazine*, January 1999.



## Towing The Line

Robert Lane

*PassageMaker*, Winter 1998

The law and the tradition of the sea demand that we, as boaters, go to the aid of those in trouble—as long as it can be done without jeopardizing our craft and the lives of our crews. Fortunately, it's not often that any of us face the challenge inherent in dealing with a catastrophe at sea. The flip side is that few of us are prepared to respond to that challenge.

Probably the most common problem to be found at sea is a vessel that needs a tow because of engine or other mechanical failure. Tossing a tow line to a disabled motor boat seems simple enough, but there is an art to doing it successfully and safely.

To check it out, I recently went to sea with the Coast Guard and its auxiliary to watch auxiliary members, working for coxswain rank, demonstrate their skills. It was not a good day: the temperature was about 40 degrees and, as we motored away from the Coast Guard station at Pier 36 in Seattle, dirty clouds fell upon us and it began to hail.

"This is the way we do ALL our training exercises," an auxiliary member said with resignation—and a little pride.

Soon, ice pellets were crunching under foot and piling up along the edge of the windscreen on the bridge of Quarters, a 41-foot Symbol owned by Tom Liebert, commander of an auxiliary flotilla in Seattle. Three coxswain candidates were aboard, along with two auxiliary members already qualified as crew. Ahead of us, only dimly visible through the hail and rain, were two other auxiliary craft and a Coast Guard 41-foot motor utility boat. We were all wearing Mustang survival suits, so only toes, fingers and faces were chilled.

**Coxswain School:** The routine had begun earlier in a Coast Guard classroom where coxswain candidates and others listened to a lecture on towing procedures. The class was only one of many offered during the 10-day annual academy for prospective auxiliary members from throughout the Pacific Northwest. Successful completion of the academy and its at-sea exercises is required before an auxiliary member can become a coxswain and command an auxiliary vessel on any Coast Guard-related mission.

The drill was simple: First, students talk about doing it. And then they took boats to sea and practiced. Other academy sessions featured plotting and executing a search pattern; conducting a search-and-rescue mission in the dark; firefighting; seamanship skills such as securing lines, tying various knots, hitches and bends and making a boat fast to a dock. The academy also conducted classes on navigation, including calculating the course to steer (accounting for set and drift); radio operations; maneuvering in a narrow channel and taking a boat through a navigation lock. The finale is some heavy-weather work in the Pacific Ocean off the mouth of the Columbia River, including a basket hoist rescue by a Coast Guard helicopter. And it's only for members of the Coast Guard Auxiliary.

**A Valued Resource:** In the Seattle area, where there are nearly 200,000 pleasure boats, the auxiliary is a strong right hand for the Coast Guard. At every major marine event, such as the popular unlimited hydroplane races on Lake Washington, the auxiliary's Puget Sound-area flotillas and their 550 volunteer members provide more active duty representatives than the Coast Guard. The Coast Guard has 96 active duty men and women and 92 reservists available for sea-going

activities in the Puget Sound area, which covers 2,500 square miles and stretches 140 miles north to south. Only the Bellingham and Seattle Coast Guard stations operate around the clock and are able to launch boats at any time. Coast Guard Cmdr. Timothy Beltz, Seattle group commander, says: "Thank God for the Coast Guard auxiliary because we now have a score of boats available, in addition to our association with law enforcement agencies and commercial towing firms."

**Back On The Water:** Quarters, with a nervous coxswain candidate at the helm, approaches the "disabled" 41' Coast Guard boat, the cold rain making everyone miserable. Via VHF radio, he asks how many are aboard, whether anyone is injured. He makes sure everyone is wearing a flotation device. The auxiliary craft slowly circles the USCG utility boat. The purpose is to check that it has cleats capable of taking the weight of the tow and that there are no loose lines floating free that might snag a propeller. The coxswain discusses the approach with deck crew, designating one crew member to handle the heaving line and another the tow line. He talks to the "disabled" yacht by radio and describes his intended rescue plan. In calm seas, the towing boat can simply pull alongside and a crew member can hand a line to someone on the disabled vessel. In rougher water, however, the rescue ship should stand off, either at a 45 or 90 degree angle, to give the towboat skipper visibility and space to maneuver. The "T" approach is preferred in rough water.

Our coxswain candidate chooses a 45-degree approach and stops Quarters. A heaving line, with a big, round, red monkey fist on one end, is readied. The monkey fist can be the traditional weight wrapped in cotton line, or it may be a heavy rubber ball that is less

apt to cause damage or injure someone on the receiving end. Most pleasure boats don't carry throwing lines with a weighted end—a USCG motor utility boat normally carries several—as well as a shotgun that can hurl a line much, much farther than a crew member could throw. The coxswain candidate shouts an order and the deck hand swings the monkey fist in a circle, building up speed and momentum. He lets it go and the heaving line sails over 30 or 40 feet of water and drops across the bow of the Coast Guard boat. It is grabbed by crew on the utility boat. The actual tow line is already attached to the lighter heaving line, and crew aboard the utility boat begin hauling in the tow line. In short order the eye of the tow line is dropped over a cleat. A repeated question in the classroom: How do you tie the heaving line to the tow line? The answer—use a clove hitch tied around the tow line just below the eye and back it up with a half hitch. The Coast Guard connects tow lines to its boats with a bridle. Liebert, skipper of Quarters, does not carry a bridle aboard. So the tow line is given a figure-eight tie on the port quarter cleat. Two auxiliary crew take a short deck line and attach one end to the tow line six or eight feet aft of the cleat with a rolling hitch. The other end is pulled tight and attached to the starboard cleat. The effect is essentially a bridle—the tow line is pulled to the center line of the boat so the weight of the utility boat is evenly distributed directly aft. This is a neat trick, one anyone can perform even if the only thing being towed is a dinghy. The coxswain candidate tries to keep everyone informed of what is going on: he calls out orders so they are heard the length of the yacht and talks by radio with those on the towed vessel. (Later, however, a veteran crew member would take him aside and gently advise that he needs to put more effort into

thinking through the approach and in communicating his plans with the deck crew as well.) Cold rain is dripping from the hood of the coxswain candidate's Mustang. His nose is dripping, too. Gently, he eases the throttles forward to begin the tow and the 41-footer follows Quarters like a duckling trails its mom. If seas are running, the length of the tow line will be adjusted so the boats are in step—that they are both simultaneously in the trough or atop a wave. But sea conditions are no problem today with only a light breeze on Elliott Bay.

**Take It Slow:** Don't tow at normal cruising speed, the Coast Guard advises. Tow lines may break, cleats may pull loose or the towed vessel may swerve out of control. Coast Guard 41-footers can top 25 knots. But they tow at 8 to 10 knots, said John Bowen, petty officer first class, an academy instructor. As Quarters increases speed, the towed Coast Guard boat begins to yaw, surging one way then the other. The coxswain pulls the throttles back until the towed boat tracks smoothly behind. Coast Guard vessels carry 500 feet of towing line, 2-3/4 inches in circumference. The average recreational boater would be hard pressed to find anything longer than 50 feet, and may therefore have to tie a couple of lines together to make a tow line. It is important to remember that knots reduce line strength and that using lighter line limits the load towed and the speed at which the tow can be made. Some pleasure boats carry several hundred feet of spare anchor rode made of 5/8 inch nylon. Unhook the anchor and chain to make a good tow line.

**Docking is Another Story:** Okay, we're successfully under way. But here's another problem: Eventually, our crew will need to take the disabled boat into harbor and alongside a moorage space. And that's not easily done with

her at the end of 150 feet of nylon line. We'll need to take her on our hip for an alongside tow. This is a more complicated process than simply tossing the tow line. It takes careful planning and proper seamanship skills to bring one yacht alongside another at sea. Again, the coxswain candidate ponders the arrangements. He decides to put Quarters' port side against the starboard side of the motor utility boat. He calls out the plan and orders all fenders shifted to port. Deck hands are given their assignments and begin getting lines ready. Four lines are needed for this maneuver. The Coast Guard and the auxiliary refer to them by number. No. 1 is the bow line; No. 2 is a towing strap; No. 3 is a backing strap, and No. 4 is the stern line. One coxswain candidate made his alongside approach by drifting downwind into position. This could have been an easy way to do it, except the light wind blew the Coast Guard boat away just as the crew was ready to pass the lines. The best bet is to approach into the wind because it gives the skipper better control.

**Attaching A Towed Vessel Alongside:** The No. 1 bow line is handed across as the boats come together and is tied to bow cleats on both. Then the No. 4 stern line is tossed across and then we are pulled together. Usually, the stern of the towboat is a little aft of the disabled boat to allow its propeller(s) and rudder to work without interference. Next, the No. 2 towing strap is attached to a stout cleat near amidships on the tow boat and the end of that line goes over a stern cleat on the disabled craft. This is the line that will carry the weight of the tow. The No. 3 backstrap connects a midship cleat on the disabled boat to the port stern quarter cleat on Quarters and will pick up the load if it's necessary to back down. This time, a fair amount of line adjustment is required. The bow line

needs to be slacked off so the sterns can be pulled together. The towing straps demand some fiddling. Once together, the coxswain candidate slips the engines into gear and begins moving slowly toward the harbor. In a long afternoon on the bay these exercises were repeated over and over. The three coxswain candidates on Quarters all had their chance, as did the three aboard the motor utility boat. Each boat performed as a tow boat and as a victim of a breakdown. Every candidate learned from the mistakes and successes of the others. Crews got sharper at taking a boat in tow astern and alongside as the icy afternoon dragged on and on. It made me think that pleasure boaters ought to put some time into simple live-saving efforts—learning how to don a life jacket quickly, how to conduct a man-overboard rescue, how to take a stricken yacht in tow. Practice it once, and then again and again. And don't wait until it's the real thing.

**Some Additional Thoughts:** Here, our exercise ended. But in a real rescue mission we would still need to tow the disabled boat to a moorage space or repair dock. Question: Which goes against the dock, the towboat or the disabled vessel? The Coast Guard normally puts its own boats alongside the dock if the victim is smaller and could be crushed or damaged by a heavy motor utility boat. Using hand lines, the small craft then is walked forward to its own place on the dock. If a bigger boat is in tow, the Coast Guard will put it against a dock, which can be a challenging test of boat-handling skills. Suddenly, a towboat skipper is in command of a "vessel" that is twice as wide as usual. Careful calculations regarding the approach and turning capabilities are vitally important. USCG boats carry three or four crew members, and, to do this maneuver properly and safely, one person will be

dispatched to the bow of the disabled boat to shout out distances as the dock approach is made. A good Samaritan towboat operator should do the same, using someone from his crew or from the disabled boat. Again, the towboat skipper should make sure everyone knows his or her plans BEFORE the maneuver begins. If the destination is a marina, a VHF radio call may bring some line catchers down the dock to help with the landing.



Upcoming Events

Mar 6	PRYCA Board Meeting, Quantico YC 9:30 AM
Mar 15	Newsletter Deadline
Apr 5	PRYCA Board Meeting, Tantallon YC, 6 PM
Apr 5	PRYCA Delegates and Commodores Meeting Tantallon YC, 7:30 PM



Potomac River Yacht Clubs Association



1600 N. Oak Street, #1610  
Arlington, VA 22209

Address Correction Requested