The *Log*

Buzzards Bay Sail and Power Squadron
c/o Andrew Campbell
PO Box 33, Woods Hole, MA 02543

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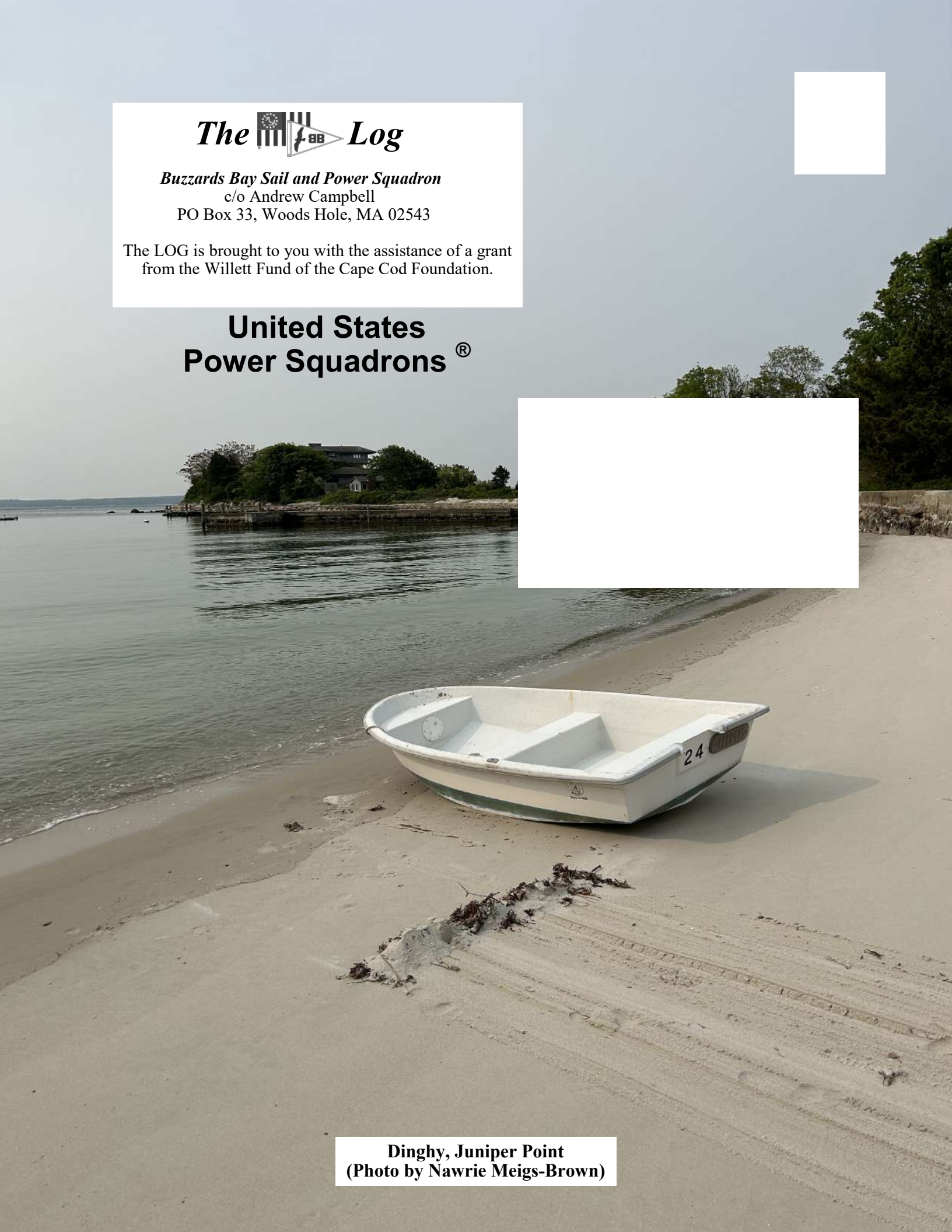

Dinghy, Juniper Point
(Photo by Nawrie Meigs-Brown)

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Buzzards Bay Sail & Power Squadron
District 34

THE LOG

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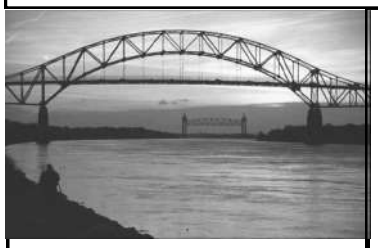

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2023 EVENTS

- On page 3 of the Log can be found the Summer Event Planner.
- Page 4, America's Boating Course June flyer.
- Page 5, 2023 Seminar Series.
- Pages 6 & 7, Comprehensive On Water Training.

SUMMER EVENT PLANNER

2023

FOR CCSPS EVENTS PLEASE SEE THE CCSPS (Americas Boating Club Cape Cod) WEB SITE

Saturday	Comprehensive Coastal Navigation (P & AP)	9:00 – 12:00 AM
March	4; 11; 18; 25 Piloting	
April	1; 8; 15; 22; 29 Advanced Piloting	
May	6; 13; 31 Advanced Piloting	
June	7: 14: 21	
June	America's Boating Course (ABC)	6:30 – 9:00 PM
Thursday	1; 8; 15; 22	exam Sunday June 25 AM
June	America's Boating Course (ABC)	6:30 – 9:00 PM
	26; 27; 28; 29	exam Sunday July 2 AM
June	Seminars Tuesday Evening	6:30 – 9:00 PM
13	New England / Cape Cod Weather	
20	Advanced Powerboat Handling	
July	Seminars Tuesday Evening	6:30 - 9:00 PM
11	Basic Powerboat Handling	
25	Advanced Powerboat Handling	
July 18	BBSPS E Board Meeting	6:30 – 9:00 PM
Tuesday	live virtual format on line	
August	Seminars Tuesday Evenings	6:30 - 9:00 PM
1	Navigating and Boating with Electronics	
8	Basic Powerboat Handling On Water Training	
15	Basic Coastal Navigation part 1 of 2	
22	Advanced Powerboat Handling On Water Training	
29	Basic Coastal Navigation part 2 of 2	
Thursday	America's Boating Course (ABC)	6:30 – 9:00 PM
September	21; 28	
October	5; 12	exam Sunday October 15 AM
September	Seminars Tuesday Evenings	6:30 – 9:00 PM
8	Advanced Anchoring	
12	New England / Cape Cod Weather	

BUZZARDS BAY SAIL AND POWER SQUADRON
presents

AMERICA'S BOATING COURSE
JUNE 2023 SCHEDULE

America's Boating Course (ABC) is recognized as one of the very best ways to prepare yourself for boating.

ABC meets NASBLA certification requirements, is recognized by the U.S. Coast Guard, and meets MA requirements for boat operation by 12-15 year-old boaters.

ABC covers the basics of operating a boat safely, including rules of the road, aids to navigation, required equipment, and boat handling techniques.

Each class is a live, interactive, virtual presentation using ZOOM on 4 weekday evenings followed by a "drive in" in-person, proctored exam given the Sunday morning following the last class.

Month	Classes	Time	Exam
JUNE	1; 8; 15; 22	6:30 – 9:00 PM	June 25
JUNE	26; 27; 28; 29	6:30 – 9:00 PM	July 2

ATTENDANCE ALL 4 DAYS PLUS THE EXAM IS REQUIRED

COST: $65 per student

You will receive a copy of the USPS ABC book, a summary of MA boating laws, and a US Coast Guard safe boating guide prior to the class.

PRE REGISTRATION IS REQUIRED
A PRE COURSE ASSIGNMENT NEEDS TO BE COMPLETED
WE MUST MEET BEFORE THE CLASS TO DISTRIBUTE COURSE MATERIALS

TO REGISTER: Send a completed registration form* along with a check made payable to "Buzzards Bay Sail & Power Squadron" to:
Richard Moore PO Box 1685 Sagamore Beach, MA 02562-1685
Email: chmbrrck@live.com Telephone: 508-888-8238

* ***Registration form can be found on the web site www.bbsps.org***

BUZZARDS BAY SAIL AND POWER SQUADRON
presents

2023 SEMINAR SERIES

BBSPS will present a series *of live, interactive, online* seminars on a comprehensive range of boating topics designed to make you a more confident and secure boater.

JUST WHAT YOU NEED TO NAVIGATE THE CAPE WATERS
KNOWLEDGE IS CONFIDENCE

all seminars are presented on-line evenings 6:30 – 9:00 PM

Date		Cost *USPS member /non-member*	Subject
JUNE			
13	**Tuesday**	**$30/40**	**New England / Cape Cod Weather**
20	**Tuesday**	**$40/50**	**Advanced Powerboat Handling**
JULY			
11	**Tuesday**	**$40/50**	**Basic Powerboat Handling**
25	**Tuesday**	**$40/50**	**Advanced Powerboat Handling**
AUGUST			
1	**Tuesday**	**$30/40**	**Navigating and Boating with Electronics**
8	**Tuesday**	**$40/50**	**Basic Powerboat Handling**
15	**Tuesday**	**$40/50**	**Basic Coastal Navigation part 1 of 2**
22	**Tuesday**	**$40/50**	**Advanced Powerboat Handling**
29	**Tuesday**	**included**	**Basic Coastal Navigation part 2 of 2**
SEPTEMBER			
5	**Tuesday**	**$30/40**	**Advanced Anchoring**
12	**Tuesday**	**$30/40**	**New England / Cape Cod Weather**

Join us for a fun and effective learning experience with no tests and no pressure
Where the instructors are live on line with you and available to answer all your questions

PRE-REGISTRATION IS REQUIRED

TO REGISTER: Send a completed registration form* along with a check made payable to "Buzzards Bay Sail & Power Squadron" to:
Richard Moore PO Box 1685 Sagamore Beach, MA 02562-1685
Email: chmbrrck@live.com Telephone: 508-888-8238

We will email you an on-line link just prior to the presentation.
the registration form can be found on www.bbsps.org web site

COMPREHENSIVE ON WATER TRAINING

- ***Do you fear docking your boat?***
- ***Do you think it is much easier to parallel park a car than dock a boat?***
- ***Do you have trouble leaving a dock with wind pushing you?***
- ***Is it a mystery why your boat behaves like it does?***

Perfect combination of classroom sessions and hands-on on-water training with expert instructors Two extensive, live online seminars bracket your on-water experience. They explain the why and how of the boat's behavior.

You'll learn how to operate boat controls and how a boat responds to your inputs and external factors such as wind and current. Animation and video clips help you visualize maneuvers prior to doing them on the water. We cover the use of lines, departing from a dock, operating in a fairway, pivoting, approaching a mooring, backing, docking, steering techniques, holding a position, and stopping quickly.

On water training may be done using a training boat (20' Boston Whaler center console) or on board your own boat.

All on water participants need to have completed a NASBLA approved basic boating course.

JUNE 6 JULY 11 AUG 8 Basic Powerboat Handling
Boat Handling / Control / Limited Spaces Zoom

JUNE JULY AUG On Water Training
by appointment weather dependent

JUNE 20 JULY 25 AUG 22 Advanced Powerboat Handling
Summary / More Advanced Techniques Zoom

WHERE: **On Water Training**
Using Training Boat Red Brook Harbor/Buzzards Bay
Meet at Parker's Boat Yard 68 Red Brook Harbor Road Cataumet, MA 02534

Using your boat at your docking location
Boat must have USPS / USGA Vessel Safety Check (Free)

COST: **Using Training Boat**
USPS member $250 Non member $350

Using your boat
USPS member $60/hour + travel fee (if applicable)

PRE REGISTRATION IS REQUIRED
SPACE IS LIMITED

TO REGISTER: Send a completed registration form to:
Richard Moore PO Box 1685 Sagamore Beach, MA 02562-1685
Email: chmbrrck@live.com Telephone: 508-888-8238
You may pay for the training (cash or check made payable to "BBSPS" or "Buzzards Bay Sail & Power Squadron") when we do the on water segment.

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The View

Have you gotten your boat in the water yet? Summer is upon us. We have had substantial interest in boat handling and on-water training. That can be done on your own boat. Check the seminar schedule and sign-up. Also, now is a good time to get a Vessel Safety Check.

We've been busy. Three of our members have successfully completed **Piloting** and are about to finish **Advanced Piloting.** We continue with our seminar program having just offered **Trailering Your Boat** and **Advanced Anchoring.** We are just about to begin **Basic Powerboat Handling**, **Advanced Powerboat Handling**, in June and we will repeat these two seminars in July and August. We have been offering **America's Boating Course** monthly.

Remember, we also offer to help our members figure out how to use their electronics and other gear on board. We would be pleased to spend time with you on your boat showing you how to use your equipment. All you need to do is ask.

Beginning late summer, we will start a session of the **Navigation Course**. If you have interest in taking USPS's most advanced navigation course involving celestial and offshore navigation, let us know.

We are looking into activities of interest to you so we can get together doing boating things. One in the works is a kayaking tour of Buttermilk Bay. Let us know what would interest you and we'll see what we can do to make it happen.

Enjoy your boating!

Best regards,

Bob Sweet

EDUCATION REPORT
JUNE 2023

2023

ABC Classes — Bob Sweet & Dick Moore

June	1; 8; 15; 22	6:30 – 9:00 PM	exam June 25
June	26; 27; 28; 29	6:30 – 9:00 PM	exam July 2
September	21; 28 October 5: 12	6:30 – 9:00 PM	exam October 15

Seminars — Bob Sweet & Dick Moore

Tuesday evenings 6:30 – 9:00 PM

June	6; 13; 20	July	11; 25
August	1; 8; 15; 22; 29	September	8; 12

Comprehensive On Water Training — Bob Sweet / Dick Moore

Basic Powerboat Handling

June 6	July 11	August 8

on water training by appointment scheduled between the two seminars

Advanced Powerboat Handling

June 20	July 25	August 22

Spring Courses

Coastal Navigation (Piloting & Advanced Piloting) — Bob Sweet & Dick Moore

Lectures are live, virtual on line presentations. Plotting and positioning are in person hands on training. 3 students. The students have completed their Piloting exam and they are being sent to USPS for grading.

Saturdays 9:00 AM – 12:00 PM

March	4; 11; 18; 25	April	1; 8; 15; 22; 29
May	6; 13	June	7; 14; 21

Marine Electrical Systems — Dick Moore

This course covers the practices of wiring your boat, including both DC and AC power systems. Live, virtual lectures plus in person hands on sessions. 4 students. CONGRATULATIONS TO: Rooster Fricke, Eddie Goggin, and Fernando Rodriguez on successful completion of the Marine Electronics exam!

Fall Courses

Boat Handling / Seamanship — Dick Moore

This is the next course after the ABC boating class and treats similar subjects but in greater depth. It is the first in the USPS advanced grades sequence of courses.

Wednesday evenings 6:30 - 9:00 PM

September	13; 20; 27	October	4; 11; 18; 25	November 1

Offshore Navigation (N) — Bob Sweet & Dick Moore

This is the culmination of USPS navigation study and companion to Celestial Navigation (JN).

Fall	introduction and Sights	sight Reduction	sight Folder
Fall / Winter	electronic navigation	work of the navigator	cruise

Engine Maintenance — Dick Moore

This course stresses the diagnosis of modern systems, while teaching the basics of engine layout and operation and covers repairs a person can reasonably perform.

Lectures are live, in person virtual presentations with separate in person sessions.

Tuesday evenings 6:30 – 9:00 PM

September	26	October	3; 10; 17; 24; 31	November	5

Our course offerings are all planned using live "virtual" presentations with group in person sessions and individual in depth sessions with each student as necessary. We are striving to bring our members and the boating public high quality, comprehensive, boating education opportunities. Look at our schedule of classes and seminars and join us….learn something……have fun….. and have some person to person interaction, either virtually or in person.

Respectfully submitted,

Richard Moore SN IN
Education officer

Third New England-based Fast Response Cutter commissioned in Newport, Rhode Island

Published May 31, 2023

WHO: Vice Adm. Kevin Lunday, the Coast Guard Atlantic Area commander, Lt. Terry Netusil, Coast Guard Cutter Maurice Jester commanding officer, Carolyn Graebener, the ship's sponsor, along with additional Jester family members

WHAT: Commissioning ceremony for the Coast Guard Cutter Maurice Jester

WHEN: Friday, June 2 at 10:00 a.m.

WHERE: 80 Fort Adams Dr. Newport, RI 02840

BOSTON — The Coast Guard Cutter Maurice Jester (WPC-1152) is scheduled to be commissioned during a ceremony at Fort Adams State Park in Newport, Rhode Island, Friday. The newly-

built Maurice Jester was accepted by the Coast Guard on March 2, and will be one of six new Fast Response Cutters homeported in Boston.

The Sentinel-class fast response cutter (FRC) is designed for multiple missions, including drug and migrant interdiction; ports, waterways and coastal security; fishery patrols; search and rescue ; and national defense. The Coast Guard has ordered 65 FRCs to replace the 1980s-era Island-class 110-foot patrol boats. The FRCs feature advanced command, control, communications, computers, intelligence, surveillance and reconnaissance equipment; over the horizon cutter boat deployment to reach vessels of interest; and improved habitability and seakeeping.

Born in Chincoteague, Virginia, Lt. Cmdr. Maurice Jester enlisted in the United States Coast Guard in 1917, rising to the rank of Chief Petty Officer Boatswains Mate by 1936. As the United States entered World War II in 1941, Chief Jester was promoted to Lieutenant and given command of the USCGC Icarus (WPC 110). Only one year later, LT Jester along with his crew, became the first U.S. Ship to capture the crew of a German U-Boat after it’s sinking. For his heroics in the sinking and rescue of the German Sailors aboard U-352, LT Maurice Jester was awarded the Navy Cross and promoted to Lieutenant Commander for his leadership.

How different hull types react in rough water

Displacement, semidisplacement and planing hulls all have their pluses and minuses. We compare and contrast them.

An interesting article reprinted from *Soundings* magazine. Eric Sorensen is a powerboat expert.

- **ERIC SORENSEN**
- **SEP 4, 2014**

How a boat handles rough water depends on its hull design.

This is the first in a series of stories on rough-water boat handling. Although you might not intend to go out in seas taller than your VHF antenna, you may well find yourself in such conditions if you venture offshore often and far enough. In this first article, I'll consider the capabilities and limitations of the three basic hull forms: displacement, semidisplacement and planing. I'm assuming in this discussion that each of the examples under consideration is the best of its kind in terms of hull form, seaworthiness, helm sightlines and so on. Each hull form has its pluses and minuses. This overview should help you think more deeply about the issue of seaworthiness.

Displacement

The Krogen 58 has a displacement hull, providing stability and seaworthiness

The biggest limitation these vessels have is their speed, which is constrained to that of an open-ocean wave of the same length as the hull at the waterline. The square root of the waterline length (LWL) multiplied by 1.34 tells you precisely how fast a displacement hull can go in knots — 7.9 knots for a 35-foot LWL, for instance. Such low-speed capability greatly reduces a skipper's options when trying to avoid bad weather at a macro level. It also reduces agility locally, so these boats are less able to zig and zag around breaking waves. Displacement hulls tend to draw more water than their planing counterparts, which, of course, limits their ability to take shortcuts through shallows.

For pure ocean-crossing capability, however, there is no substitute for a displacement hull. These boats, which are often ballasted to increase their range of stability to 90 degrees or more, use very little fuel when run well below their full-displacement speed. A 96,000-pound Krogen 58 (52 feet LWL), drawing more than 6 feet and powered with twin 158-hp diesels, gets 2.4 nmpg running at a speed length ratio (s/l) of 1 (7.2 knots). Its hull speed of s/l 1.34 (9.7 knots) reduces efficiency — and range — to less than half that: 1.1 nmpg.

A displacement hull's round bilges, upswept buttocks and emerged transom create very little form, or wave-making, drag at these low speeds. All those molecules of water being displaced by the hull separate and then regather gently and gradually, so wave-making resistance is very low.

The ballasted displacement hull's deep draft creates a very low center of gravity and results in a lot of hull below the waterline, which makes the boat much less susceptible to the wind. A well-designed displacement hull is a lot easier to keep pointed into the wind at low speed than a planing hull, which is good because low speed is all that this genre is capable of. The trouble is that some recent displacement yachts are getting larger and larger superstructures in relation to their underwater hulls, and this makes them much less stable dynamically and harder to control in high winds and heavy seas. A good scenario would be to find yourself offshore in a boat with a big hull and little superstructure. To the degree that the ratio of mass between the underwater hull and above-water deckhouse favors the hull, your boat will be far more controllable in a seaway and, therefore, more seaworthy.

With all that draft and ballast, and comparatively little power, the displacement vessel accelerates more slowly and to a lower top speed. But the generous mass and righting arm give you some degree of immunity to the elements not granted to shoal-draft planing hulls. Being less susceptible to the wind, which you cannot see and can only feel when it hits you, makes boat handling more predictable. In very heavy weather, especially breaking seas, the odds are with the well-found displacement hull that cannot dodge these seas as well as a planing craft but can survive them more reliably when they are encountered.

Because of the displacement hull's speed limitations, the stern tends to get tossed around running down-sea in waves longer — and therefore faster — than the hull itself. This is in spite of their easy sections aft that pick up buoyancy gradually, unlike a flat-sterned planing hull. This must be anticipated and reacted to proactively by the skipper, who should start to counter the wave, well before it hits, with the rudder. The keel, usually thought of as providing directional stability, has the opposite effect, working against you in down-sea conditions as the overtaking wave catches the keel and tosses it to the side. The resulting yaw, combined as it invariably will be with a roll, can lead to a broach if these two rotations are powerful enough.

The key is for the skipper to anticipate and stay ahead of events. The keel also works against you in a hard turn, with the boat heeling outboard away from the direction of the turn. This is not only disconcerting and potentially hazardous for passengers, but heeling away from the turn also makes the rudders less effective in turning the boat, with much of their prop wash deflection energy directed upward as well as sideways. A boat heeled over also has less righting energy available if it were to be hit by a breaking sea from the up-heel side. Although it can cause problems when the boat is running slower than waves overtaking on the quarter, the keel on the displacement hull is essential to coursekeeping, provides grounding protection, anchors the boat against the wind and holds ballast down low for greater stability.

So what we have at sea is a vessel that plods along, something like a bulldozer, while using comparatively little fuel. The hull's motions are gentler in every direction, so the crew is long to tire and able to stay alert for longer periods on watch — a crucial boat handling element when offshore. A large rudder directly behind a large, slow-turning prop creates a good amount of lift to both sides, giving the skipper who knows how to anticipate the sea's effect good directional control. The full keel can be a help or a hindrance, depending on the situation. On a slow boat, having a lot of draft — along with ample directional control — makes the boat better able to hold its own in heavy weather. If seas are breaking, the displacement vessel is usually the one you want to be aboard because it is better able to survive an encounter with big water on deck, thanks to its greater displacement, often stouter construction and larger area of positive stability.

Planing

The Valhalla V-37's planing hull gives it a speed advantage over other hull types.

It's important to qualify any discussion on planing hulls because their ability to take on and not only survive but also thrive in heavy seas is greatly dependent on hull form and, specifically, their ability to reliably make good speed in these conditions. In my experience, the majority of the planing boats sold today are poorly suited to venturing offshore because their hulls are too wide for their length, too flat and full forward, and often too flat aft.

In addition, like the contemporary displacement trawler with its ever-ballooning deckhouse, there is even more of a gap between the area of the hull under water and the boat above the waterline, creating top-heavy boats that are hard to control in a stiff breeze. In addition to making a boat very difficult to handle in rough water, these design elements also severely limit a skipper's ability to outrun a storm. These boats also ride so harshly and roll so heavily that the people on board are soon too exhausted to react properly when they need to most.

That said, if I were running a well-designed deep-vee planing hull with a moderately proportioned superstructure, a responsive steering system, plenty of freeboard forward, deck drainage aft, a reliable and powerful propulsion system and predictable handling, I would be very confident offshore in almost any weather. I also like the speed and agility of planing boats, so I would default to one in most circumstances.

Compared with a displacement vessel, the planing hull is characterized by relatively shallow draft, hard chines instead of round bilges and flat rather than upswept buttocks aft, which provide lift and allow it to accelerate over and ahead of its bow wave. The planing hull feels very stable, but this is a result of the distribution of buoyancy — called form stability — not weight, and has a narrower range of positive stability. The typical planing hull cannot physically survive extremely

rough conditions, as it is built to lighter scantlings than many displacement trawlers. So the planing boat must, in the words of prize fighter Muhammad Ali, “float like a butterfly” on its own terms, dancing around rather than confronting the biggest waves.

In all but the most severe sea conditions, a well-designed deep-vee is an excellent choice when the objective is to transit from Point A to B. You’ll get there a lot faster, and you’ll be back in your slip sipping a drink hours before the trawler makes it home. And if you have to cross a bar coming home, the planing hull’s speed advantage keeps you in better control of the situation because you choose the wave to ride in on.

A good planing boat has to be able to run well in all directions to the sea. A moderately sharp entry and generous deadrise with high chine elevation in the forward half of the hull allows the boat to keep running at high speed in rough water without pounding passengers into submission. There should be adequate deadrise aft so the boat tends to run in a straight line, rather than constantly yawing off course; deadrise in a deep-vee acts like a keel while allowing it to heel into a turn for better control and passenger safety. Running down-sea, the forefoot shouldn’t be so fine or deep that the bow plunges deeply into the back of each wave. Excessive bow immersion, especially running down-sea, turns the bow into a rudder and makes the boat very difficult to control, easily leading to a broach, which in very rough water can result in capsizing. So a well-designed deep-vee planing boat’s bow is not so flat and full that it pounds up-sea, and it carries enough buoyancy and dynamic lift so immersion is minimized down-sea.

Stepped hulls are a subset of planing hulls. These boats have transverse step pockets in the bottom, with the hull section immediately abaft the pocket slightly higher in elevation than just forward. At high speeds, the water flow past the recessed pocket creates a low-pressure area that draws in ambient air and blankets the hull just aft. In simple terms, reducing hull surface in direct contact with the water reduces drag, and the boat goes faster. Hull steps work extremely well at high speeds — in the 60-plus-knot realm — adding 5 to 10 knots to some boats, according to designers.

Stepped hulls aren’t for everyone. They have limitations in trimmability—a big limitation when running down-sea—and adhere tenaciously to the wave gradient, rather than letting you “fly” the boat with more autonomy using tabs and engine trim. They are also more sensitive to weight additions, particularly extra weight up high, with the risk of excess chine immersion blocking air flow to the steps and causing a sudden low-pressure spike and loss of directional control. They demand a higher level of skill and attention by the operator. That said, they make a boat faster and more efficient at high speeds.

Semidisplacement

The Beneteau Swift Trawler 34's semidisplacement hull gives it some of the stability and seaworthiness characteristics of a displacement hull while offering more speed.

This hull type is the least understood, as it operates in a speed/length region partially supported by buoyancy, like a displacement hull, and partly by dynamic forces, like a planing hull. A semidisplacement hull has a nearly flat buttocks aft, with the transom immersed below the waterline, which with enough power applied allows the stern to create lift so the boat can climb on plane. The shape of the bow should also be such that it lifts as well as displaces. A boat can never drive through its bow wave; it has to climb up over the wave, with the operative word being climb. For boats with operating speeds of 12 to 16 knots, it doesn't matter much in terms of planing efficiency whether the boat has hard chines or round bilges, but it matters a lot that the bow and the stern can generate lift within this range. Boats that spend most of their time at or below hull speed benefit from round bilges, which create less wake-making resistance. Boats running faster than 16 knots benefit greatly from having hard chines, however, because the sharp corner at the intersection of bottom and sides creates flow separation, breaking a sheet of water away from the hull, which reduces frictional drag. The hard chine hull also has more surface area for lifting when on plane, which reduces the dynamic bottom loading and helps the boat to plane with less energy and at a lower speed.

We know that a pure displacement hull is limited by its waterline length to an s/l of 1.34 (square root of the LWL times 1.34), but where is the demarcation between planing and semiplaning, the point at which most of the boat's weight is supported by dynamic forces? Mathematically (and inexactly, because hull shapes and bottom loading vary) this occurs at an s/l of 2.5. So a boat with a LWL of 35 feet will plane at 14.8 knots, and a 45-foot LWL at 16.8 knots.

A semidisplacement hull tends to have a center of gravity that's farther forward than planing boats, so they tend to plane more easily and at lower speeds. The Maine lobster boat, with its full keel, round bilges and lift-generating hull shape, is one of the best-known semidisplacement hull forms, although even this class of boat has a lot of variety in lines and proportions. Semidisplacement boats are often heavier than full planing boats, and they often have deeper and finer hull sections forward, producing a comfortable ride and easy motions.

In terms of agility and speed, they are firmly situated between displacement and planing hulls. They can make excellent rough-water boats if properly designed, with much of the solidity and comfort of the displacement hull but also a good run of speed, often into the high 20- or low 30-knot range. At these speeds, a high percentage of propulsion power goes into pushing the keel through the water and overcoming the added resistance of the hull shape. For this reason, the hull designed for semidisplacement speeds is most appropriate for owners who are happy with 12- to 16-knot speeds, with a dash of capability in the low 20s.

A summary comparison

The displacement hull has the longest range, gets the best mileage, has the greatest range of positive stability and has the highest level of survivability in extremely rough conditions. It does best in a head sea, tends to roll heavily in a trough if unstabilized or unballasted and is often squirrelly down-sea; I've often wished I had a rudder in the bow, as well as in the stern, when running down-sea in a displacement vessel. They are ultimately very survivable, but they also need to be, given their inability to dodge bad weather.

The well-found deep-vee planing hull offers surprisingly good handling in rough water, with a smooth ride up-sea, good coursekeeping down-sea and stability in a trough. The deep-vee has a very broad speed range, which gives it the ability to get out of harm's way, assuming that can be accomplished within the boat's fuel range. It is also quick and agile, so it's the best platform of all for avoiding patches of breaking waves. In my experience it is by far the best for crossing bars, with its twin-screw stationkeeping ability, speed, agility and natural coursekeeping ability. It's a little like the personal watercraft that dart around 40- to 50-foot breakers in Hawaii, towing surfers out to the surf line. You'd never survive those conditions in a 10-knot boat.

The planing hull also tends to be drier in rough seas. The chine flats and spray strakes forward deflect spray down and out, the higher speed capability allows these boats to drive past the spray, and spray is generated farther aft along the hull in the first place, so less of it lands on the windshield.

The semidisplacement boat has some of the advantages of the other types. It's solid and comfortable and rooted by its keel and draft like the displacement boat, but it's capable of going twice as fast to avoid bad weather or get home before seas really start building. It's probably the most comfortable of all up-sea, but it can have issues down-sea, with its full keel at times interfering with the rudder's ability to do its job. Furthermore, putting the rudder over when running down-sea, and the subsequent keel-induced heel outboard, diminishes steering control that much more, just when you need it most. Most semidisplacement hulls are flat aft, and although this helps with efficiency and load-carrying ability, it also detracts from down-sea directional stability.

I'll discuss specific offshore boat-handling tactics, tips and strategies in my next installment.

September 2014 issue

This Article was reprinted from *Soundings*

Boat Handling in Close Quarters

Bob Sweet

Boats do not behave like cars. In many ways they actually are more maneuverable. But handling a boat in close quarters causes most boaters a high degree of stress. Actually, handling a boat is easy if you know how to do it.

The first challenge is controlling all parts of the boat. In close quarters near other boats and objects you would rather not hit, you need to watch all of the corners of the boat. Add wind and current to the mix and you get an endless combination of things that can happen. So, there is no single magic solution.

What you need to know is how the boat responds to external forces and your controls. From that, you can formulate the specific actions you need to take in that particular situation. So, let's dive into controlling the boat.

Remember, boats are steered from the back, not the front. In essence, turning the boat involves moving the stern around so the bow is now pointed in the direction that you want to go. In reality, boats pivot. In forward gear that pivot point is roughly 1/3 of the waterline length aft of the bow. In other words, it is up front. That means any turning maneuver causes the stern to be pushed sideways in the opposite direction of the turn. In open water, that is not an issue. Near a boat or dock, it is.

Now, if you put the boat in reverse, the pivot point moves aft. It is approximately 1/3 of the way forward from the stern. That means whenever you turn in reverse, the bow swings wide in the opposite direction.

Mastering these concepts is key to any close quarters maneuvering. Start with the boat secured to the dock and practice shifting gears at idle speed with three positions of the wheel: neutral (straight), full to port (left), and full to starboard (right). Watch what happens and continue until you have a "feel" for how the boat is behaving in response to your actions.

When you are maneuvering your boat in close quarters, the wheel will be in one of those three positions. Also, again in close quarters, you always steer in neutral gear, then apply power briefly. In fact, all of your actions involve brief periods of time in gear, and much of the time in neutral. This is called "intermittent" power, and it represents the slowest speed you can go.

While in neutral, you decide what action is needed. If you want to go straight, apply power briefly, go back to neutral and see what happens. What do you need to do next? If you want to turn to port, turn the wheel all the way, then briefly apply power. In this way, most of the boat's thrust is being applied to turning rather than going forward. Back in neutral, did you turn enough? If so, return the wheel to the neutral position. This is your opportunity to determine your next move.

Obviously, there is more to these techniques to get into your dock. But these maneuvers form the basis for all of the actions. In many situations, you will need some assistance from lines whether departing or docking. The is especially the case when the boat is being pushed by winds or currents.

We offer two boat handling seminars. Even if you have experience with boat handling, you will be surprised how much you can learn. Most folks have learned how to handle their boats by trial and error, finding something that works for them. It might not be the best way. Take the seminars and begin to think like your boat!

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