



COAST GUARD



PROCEEDINGS OF THE MERCHANT MARINE COUNCIL

Live and Let Live . . .

The Coast Guard and

Boating Safety . . .

U.S. Coast Guard Auxiliary . . .

Boating Statistics . . .

Motorboat Safety Issue

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COVERS

Front Cover: A family outing in a small outboard motorboat. Approved lifesaving devices and proper loading of the boat should ensure a safe cruise. Nonswimmers and children should wear buoyant vests.

Back Cover: The annual observance of National Safe Boating Week reminds every boater of the responsibilities he must meet the year round.

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PROCEEDINGS

OF THE

MERCHANT MARINE COUNCIL

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LIVE AND LET LIVE

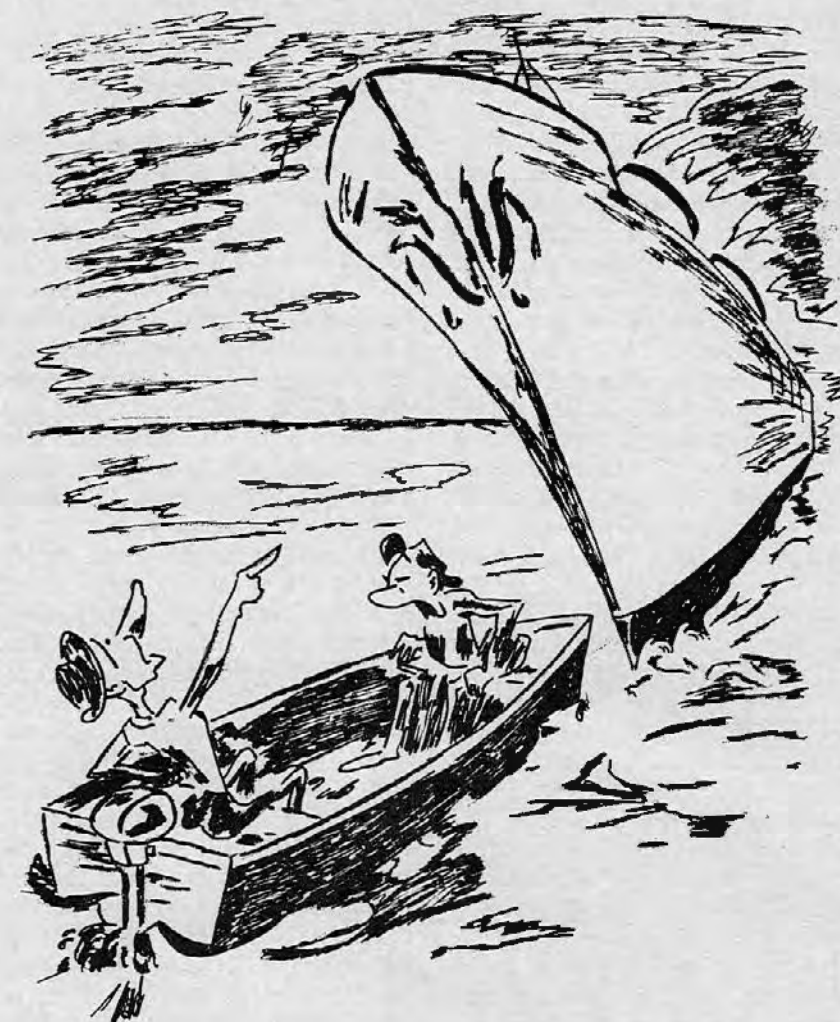
Captain Leonard E. Penso USCG

The opinions or assertions contained herein are those of the writer and are not to be construed as official or reflecting the views of the Commandant or the Coast Guard at large.

SHIPMASTERS and pilots have been known to complain that small craft operators are often not well grounded in the rules of the road, that they dart hither and yon not making their intentions known; that they, the shipmasters and pilots, are virtually helpless in cases where collision situations perpetrated by small boats develop at the last moment. On the other hand, yachtsmen will reply that merchant vessels rarely reduce speed in congested waters. They just barrel on through.

Both parties have a valid complaint but both are at fault as well. The truth of the matter is that neither shipmasters nor yachtsmen have abided by that old maxim, "live and let live."

Consider, for example, the alleged lack of knowledge of the rules of the



"Keep going—he's only bluffing!"

road on the part of yachtsmen. There are few of us who would be willing to take an examination in the rules of the road at a moment's notice. If tomorrow was the date set for the exam there would be much cramming and burning of the midnight oil tonight. Yet as dangerous situations develop on the water we must often make quick decisions based on our knowledge of the rules. The tremendous increase in recreational boating has exposed merchant mar-

iners as well as experienced yachtsmen to the unpredictable antics of beginners, some of whom don't even know of the existence of the rules. However, not all of the blame can be placed on the tyros. Coast Guard files are replete with fines and/or warnings to knowledgeable yachtsmen wherein they failed to abide by the rules of the road or keep a proper lookout. Take the case of the operator of a small uninspected passenger motorboat in a west coast harbor who

allegedly neither heard nor saw a foreign freighter bearing down on his starboard side. The freighter, being the privileged vessel in a crossing situation, maintained her course and speed, finally blew the danger signal, and then reversed engines and changed course hard right. Nevertheless, a collision occurred and the small boat sank. Three passengers lost their lives.

Two casualties occurring several years ago emphasized the need for keeping a proper lookout. Conditions were ideal in both cases; unlimited visibility, light wind, no sea, and ample room to maneuver, but the operators failed to watch where they were going. In one case, two men were trolling from an outboard motorboat. They noticed a cabin cruiser about a half mile away headed in the same general direction. Nothing to worry about so they watched their baits astern. A few minutes later the 46-foot cruiser was discovered close aboard making 13 knots and in the jaws of an inevitable collision. The fishermen were pulled out of the water soaked and shaken, and separated from a lot of expensive fishing gear, not to mention the boat. In the other case, three youths in a high-powered, lightly built, outboard were planing down a river at 30 knots. The operator was tinkering with the motor while the other two watched him. The boat ran full tilt into a channel marker. One boy was killed, another hospitalized with a serious back injury, and the third suffered a mental shock.

And what of the shipmaster's complaint that some small boat skippers dart hither and yon without making their intentions known. Two cases of recent vintage come to mind which support this claim. In the first case, a large inbound tanker was overtaking a yacht headed for the same port. After

sounding the appropriate signal the tanker steered a course to pass on the yacht's starboard side. Just as the tanker's bow overlapped, the yacht suddenly altered course to starboard. She was struck and demolished by the tanker and one man lost his life.

In the second case, a tanker was proceeding to sea down the main ship channel of a west coast port. A small vessel was sighted about a mile and a half ahead, also proceeding down the channel. The tanker blew two blasts indicating a passing on her port side. Apparently this signal was not heard by the small boat operator, because shortly after he made a pronounced change of course to port, heading across the bow of the tanker. The mate on the tanker blew the danger signal, rang up full speed astern and ordered hard right rudder. As the tanker's bow started swinging to the right the small boat appeared clear on her port bow so the mate rang up "stop" on the engine. At this point the small vessel made another sharp change in course, this time to the right. The tanker was still forging ahead and before additional avoiding action could be taken a collision occurred. Result: Total loss of vessel and one man asleep in his bunk lost his life.

These are by no means isolated cases. Something of this nature occurs all too often, especially in cases of fog or limited visibility when a small boat can loom up under the bow of a merchant vessel with terrifying suddenness and dismaying results.

Many yachtsmen are prone to think that the relative maneuverability of their boat and a merchant vessel is not unlike the difference between handling a car and a tractor trailer. This is a dangerous analogy. While a tractor trailer may be as much as four times the length of

some cars, a merchant vessel is more likely to be ten times the length of most cruisers and at least 30 times longer than the average outboard. The difference in the mass which must be stopped or made to change course is even more significant. A typical cargo vessel entering one of our many ports is likely to weigh 2,000 times as much as the average cruiser and 30,000 times as much as the usual outboard motorboat. To further destroy the analogy, the truck is under precise control during the braking operation whereas the merchant vessel will often not answer her helm when the speed drops below three knots. Under adverse wind and current conditions the speed has to be considerably more than three knots for the master to retain complete control.

The cumbersomeness of the ordinary merchant vessel is actually astounding. If the average small boatman had any idea of the time and distance required to bring a merchant vessel to a stop he would forever after give them a wide berth. The stopping distance for most fully laden ships is at least half a mile, and the time necessary is at least five minutes. On a recent trial trip of a high-powered merchant vessel the time for a crash stop with turbines operating from full ahead to full astern took three minutes. However, this relatively short period was due to the fact that the vessel was only partially loaded, needing over 6,000 tons to bring the ship down to her designed draft. One unfortunate by-product of a crash stop is that the rudder becomes practically useless so that the ship is virtually unmaneuverable. In the case of a single screw ship with a right hand propeller, the only thing the master can be sure of is that at first the ship's head will fall off to starboard. This lack of stopping ability points to a change of course as being the best way to avoid a collision. Here

the ship has an advantage over the tractor trailer which must stay on the road. But this is true only at sea. In restricted waters the vessel has little room to maneuver.

The turning circle for a ship is in the neighborhood of four ship lengths, but in the process of making a hard right turn the ship ranges ahead for two or three ship lengths before the stern clears the original course. In fact, in the early stages of a turn to starboard, part of the vessel is to the left of where it was on the original course. It is in a sense "crabbing" sideways. Because of these characteristics, if a merchant vessel is on a collision course with an obstruction, even one as small as a navigation buoy, the shipmaster must change course at least a quarter of a mile away to clear the buoy. Obviously, if we attempt to cross the path of a seagoing vessel within this distance and our motor quits, no amount of speed reduction or evasive action on the part of this behemoth will save us.

To make matters worse, merchant vessels operating in restricted channels are affected by additional adversities besides the increased small boat traffic likely to be found on inland waters. Large vessels are subject to "squat" in narrow channels of marginal depth and to "bank suction" where the width of the channel is less than five times the beam of the vessel. And just what is this squat? In simple terms it is the increase in draft of a vessel in a shallow channel when underway. It can be as much as $3\frac{1}{2}$ feet in the case of a large tanker drawing over 30 feet of water and proceeding at 13 knots. As for bank suction, it is the tendency for the bow to move away from the near bank of the channel and the stern to move toward the near bank. Corrective helm action toward the bank is needed to keep parallel to the bank.

Years ago, before the Houston Ship Channel was widened, pilots made

effective use of bank suction in a hair-raising maneuver when passing in narrow sections of the channel. The pilot on each vessel would hold to the middle of the channel, heading directly for the other ship. Just before meeting, each pilot would order right rudder and head for the bank momentarily. As the bows passed the rudders would be put amidships. The cushion effect of the bank and a small amount of left rudder would cause a swing to the left and align each vessel with the channel and with each other. Once abreast of each other a small amount of left rudder would



be applied, causing the sterns to swing clear. The pilot would then realine his vessel and proceed in the center of the channel. The obvious hazards of this operation resulted in the widening of the channel.

One cannot consider the clumsiness of most commercial vessels without being further astounded by the problems of tugs with barges astern and alongside and river towboats pushing a series of barges. When towing barges astern on congested waters the master of the tug is beset with special problems when attempting to reduce speed in order to avoid small craft. A slack hawser may foul the propeller of the tug or the barge may

override the tug and sink it. Many a cautious tugboat skipper has slowed down in the vicinity of a sailing regatta only to find that his problems have been multiplied by a portion of the sailing fleet attempting to jump his slack tow line. Experienced yachtsmen can sympathize with the problem of an overriding tow because on occasion they have towed becalmed sailboats. The threat of damage to their well kept transoms when reducing speed keeps them ever mindful of this danger. It is generally the alertness of those at the helm of the towed sailboats which keeps the towing vessel from being holed.

The tugboat skipper enjoys no such cooperation, for his tow is rudderless and seldom manned. One night a tug was towing a molasses barge on a stern hawser in a busy harbor. The rake ended barge drew 8 feet aft and nothing forward. As the tug approached a point where a sharp turn to starboard was necessary, preparations were made to shorten the towline before heading to the delivery dock. One deckhand went aft to haul in the hawser. The master stopped the engine in order to get slack in the hawser and then backed slightly to assist the deckhand in taking in the slack. Due to the darkness the relative movement and positions of the two vessels was not readily apparent. Suddenly the deckhand shouted to the Master, "Go ahead!" At this moment the barge rode over the starboard quarter of the tug, swinging it to starboard. The tug heeled sharply and a torrent of water rushed aboard. In less than two minutes the tug was at the bottom of the harbor. Four of the crew of six were able to save themselves by clinging to a lifeboat, which had floated free. The master's body was found floating near the scene five days later. The body of the chief engineer was found, trapped in the engineroom, when the tug was raised.

When towing alongside, the problem of fouled propellers and overriding barges is essentially eliminated but the problem of capsizing is still there. Several years ago a tug was towing a carfloat from a position abreast of the barge's port quarter with two manila towlines leading forward and aft from the bow bitts, and one line, doubled up, as a stern towline. This line lead abreast from the stern bitts to the barge. As the tow changed course, a combination of wind and tidal current set up a counterclockwise turning moment. The tow was soon out of control. The carfloat continued to swing to port, its stern dragging the tug sideways toward its starboard hand. The tug heeled sharply to starboard under the terrific moment of the stern line pulling on the stern bitts. Water poured over the rail. As the tug settled, all of the crew except the fireman on watch in the engineroom were saved by climbing on to the carfloat.

It is easy to see why tugboat skippers are reluctant to reduce speed appreciably or take any radical evasive action when confronted by easily-manuevered small craft.

The skipper of a river towboat pushing a series of barges is also hesit

with special problems. The length of some of these tows staggers the imagination. The pride of our merchant marine, the *SS United States*, is about 900 feet long yet some of these river tows exceed 1,200 feet. Beware the small boatman who attempts to cut too close in front of such a monster. For such tows to slow down or change course is a time-consuming process. Even crossing close astern of such a tow is fraught with danger. Witness the family of four who attempted to do just that on the Ohio River. The father, who was operating the outboard, turned the little boat to meet the wake head on. The boat took a violent roll and threw mother and son into the water. The father dove in to help as did a deckhand from the tow. All but the little girl left in the outboard perished.

Fortunately, most of those who go to sea professionally are prone to be cool headed and unexcitable. If they were otherwise, just a few encounters with small boat traffic in our various harbors would bring them ashore in short order with a bad case of ulcers.

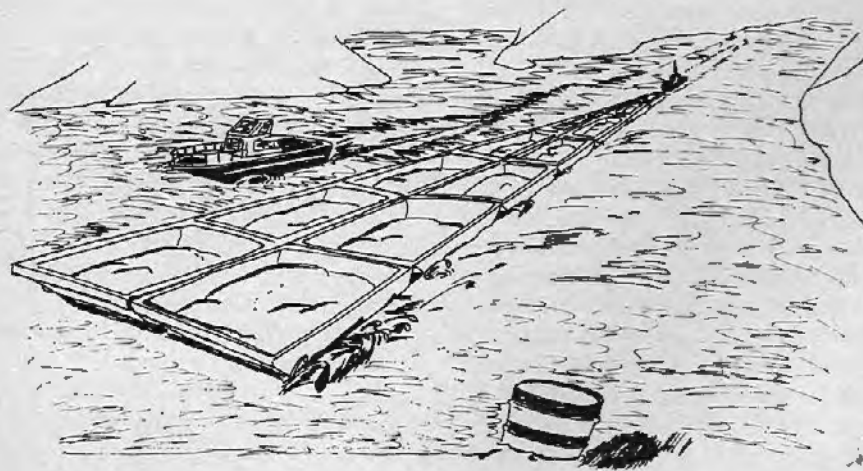
And what of the yachtsmen's claim that merchant vessels go "hell bent for leather" on our inland wa-

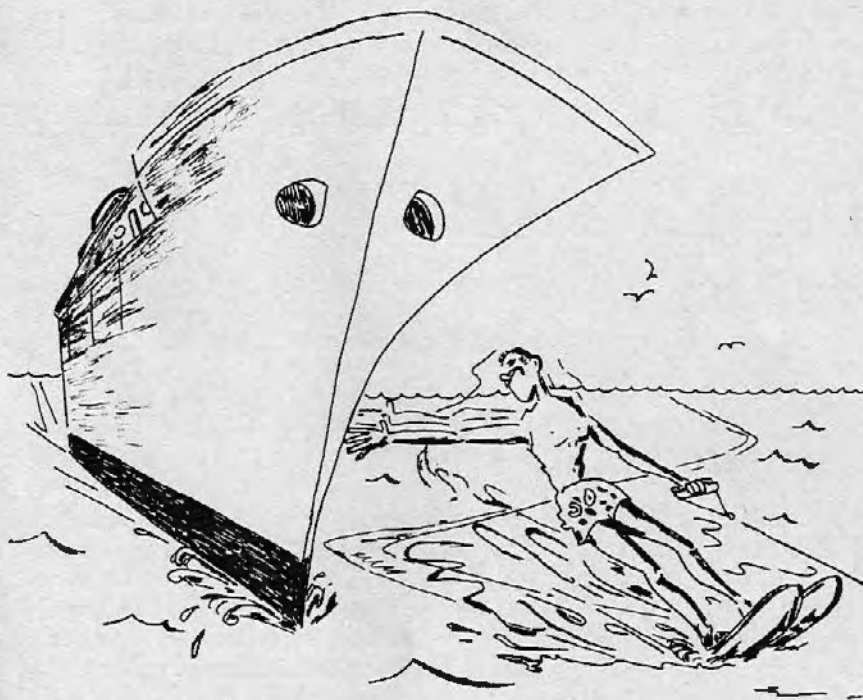
terways. Unfortunately this appears to be fact rather than fiction. A statistical analysis of selected marine collisions over a recent 3-year interval indicated that excess speed was an important contributing factor in such collisions. True, some of these collisions were in the open sea, but at least two-thirds occurred on congested waters.

Over the years the speed of merchant vessels has slowly but surely increased. Refined lines, more efficient power plants, national defense requirements, shipper's and owner's desires have all contributed to this increase. Port fees, labor costs, and other factors demand rapid turnaround. In order to minimize such costs, ship operators establish tight schedules which influence shipmasters to maintain speeds in excess of what would normally be considered prudent on congested waters. In addition, there is a strong compulsion to retrieve some of the time lost during a storm at sea by maintaining an unrealistic speed on our inland waters.

The logistic support for a modern merchant ship approaching one of our many ports is a complex affair involving many variables. When the agent gets word that such and such a ship is due to arrive at some specific time it sets in motion a chain of events: tugs are ordered to stand by, linemen are ordered for a certain pier, stevedores are contacted, the Coast Guard Captain of the Port has to be notified, Customs and Public Health are notified. If the ship experiences any appreciable delay, the expense to the operators begins to mount. The skipper is no longer the lord and master of all he surveys. Economics has tempered his authority and judgment. No wonder he feels constrained to "barrel on through."

And what is the answer to all this? Obviously, a little give and





race, a yacht shall approach any large merchant vessel or tow underway between approach buoys No. 3 and No. 4 south of the Chesapeake Bay bridge, through the bridge and into and in the marked, dredged channels to Baltimore, in such a manner as to involve the risk of collision, such yacht shall not attempt to assert the sailing vessel's right-of-way; and if it should do so shall be subject to protest."

Advice to both groups could be summed up as follows: If you are at the conn of a merchant vessel, take care of the little fellow! Anticipate and be prepared lest he do the wrong thing at the wrong time. If you are at the helm of a small craft, keep a good lookout all around and give the big fellow plenty of room. He cannot handle his ship one-tenth as freely as you can and he will be grateful for the sea room. In brief, live and let live . . . and learn the rules of the road. ‡

*Reprinted with minor changes
from Yachting Magazine.*

take on both sides would do much to alleviate the situation. Shipowners should establish more realistic schedules so that masters and pilots are not coerced into maintaining unrealistic speeds on our inland waters. Yachtsmen can help by staying out of ship channels whenever possible. There is usually plenty of water for small boats outside of the channel. If operating near the channel, small boat operators should maintain steady courses so that their intentions are plainly discernible. They should make it quite clear to the master of a merchant vessel that they intend to pass astern. Maintaining a collision course for minutes on end and then suddenly altering course to pass astern is dangerous and childish. One shipmaster claimed that a water skier rode over his bow wave and actually at-

tempted to touch the stem of his freighter. Such antics can only result in panic Federal legislation to the detriment of all.

Yacht clubs and others sponsoring predicted log contests and sailing events would do well to minimize the use of main ship channel aids to navigation as marks of the course. Instructions for the course should permit leaving government marks on either hand whenever possible. Severe penalties should be exacted for failure to display the proper navigation lights in overnight races.

The spirit of cooperation between yachting interests and commercial operators is perhaps best illustrated by the following addition to the racing rules appearing in the race circular of many Chesapeake Bay Yacht Clubs: "When, in the course of a



THE COAST GUARD AND BOATING SAFETY

Captain David Oliver, USCG
Chief, Boating Safety Division, Headquarters

RECREATIONAL BOATING is enjoying rapid growth as a family pastime, and its steady expansion indicates the need for increased attention to boating safety. With more and more Americans flocking to the Nation's waterways in their leisure hours, the chances of encountering disaster in the pursuit of pleasure are rising. In recognition of this grim fact, the Coast Guard is devoting considerable time, funds, and energy to boating safety. Safety measures which will keep apace of boating's future are being carefully planned, both through current Coast Guard programs and through legislation which may greatly affect efforts in this area.

President Johnson noted in his Consumer Message to Congress February 6 that while for many millions of Americans boating is a source of "rest and relaxation," for far too many it also is a source of "unexpected tragedy." This statement is attested to by the fact that boating accidents last year claimed more than 1,300 lives. Since the number of small boats is increasing at a rate of more than 4,000 a week, the problem is a potentially critical one. But the problem has not yet reached the major national proportions of automobile accidents. There is time to act. We can, through immediate, bold, crea-

tive measures, make boating safer—much safer than it is now.

In an effort to ensure greater safety for every boater, President Johnson's Recreational Boat Safety Act of 1968 was introduced in Congress in February. This act has two primary provisions: It offers Federal funds to help the States carry out boat safety programs of their own. It also provides authority to establish standards that will make boats and associated equipment safer. The entire package would encourage more State involvement in the problems of recreational boating and provide increased protection for boatmen.

The Federal/State aid program may provide for assisting the States to police our waterways for the greater enjoyment of the boating population. It may include a broader boating education plan, with increased safety patrols. Boat testing may become a reality under this legislation, for greater consumer protection. Data collection will be improved, so more useful information can be obtained for studies on boating's problem areas and proposing needed improvements.

The ultimate benefits of the new legislation are directed to the boat-

men. Federal matching funding and grants to the States for boating safety programs would make the waterways safer for use by pleasure boatmen nationwide. Increased State law enforcement and safety patrol activity and State educational efforts for boaters would assist the pleasure boatman in becoming a more knowledgeable and prudent sailor, while more directional efforts aimed at the obvious violator would help to remove the reckless or negligent operator from the water. Through the greater use of safety standards for the construction of pleasure boats the consumer would be assured of receiving a safer product.

The Commandant of the Coast Guard gives his full support to the administration's Recreational Boat Safety Act of 1968. Admiral Willard J. Smith has said, "I am confident that the end result of this boating safety legislation will be to make pleasure boating a safer family recreational pastime."

While the Recreational Boat Safety Act of 1968 is the core of an extensive safe boating program proposed by the President, there are numerous other aspects of the program that will demand increased Coast Guard efforts. The Coast Guard will participate in an accel-



A boatman tips his small rowboat to search for an article he lost over the side. He takes a double risk of not only overturning his boat but doing so while alone and with no one in the area to hear his call for help if needed.

State and Federal statutes, rules, and regulations relating to recreational boating. To this end the Coast Guard has entered into written agreements with several States. Sixteen agreements concerned with law enforcement have been signed as have four agreements concerned with boat regattas. Other working arrangements have been made in some States, with effectiveness ranging from excellent to fair. Although written agreements on law enforcement are difficult to consummate unless the State and Federal laws and regula-

erated research effort seeking to develop safer boat designs and improve associated equipment. Both the Coast Guard and Coast Guard Auxiliary educational programs will be expanded, in an attempt to provide information to more boat owners and operators. Analysis of accident statistics will be improved, to better seek the causes of boating casualties. The Coast Guard will also reappraise present waterway marker systems and weather and hazard warning devices.

Much of the Coast Guard's work in improving boating safety will be to continue current programs. Present efforts in State/Coast Guard Law enforcement agreements and in the use of safety patrols have proved successful thus far and should be beneficial in the future as well.

The Federal Boating Act of 1958 declares it to be the policy of the Federal Government to enter into agreements and other arrangements with the States to insure fullest cooperation in the enforcement of both

A negligent operator makes an improper and dangerous jack-rabbit start from a dock and fails to look behind to check whether the other occupants of the boat are properly positioned before getting underway. As a result, a man sitting on the gunwale is thrown overboard and the woman passenger is thrown off balance.

The boat should be pushed away from the dock or very slowly moved ahead or astern until clear. Attempting to turn abruptly from the dock under power could result in the boat's stern striking the dock violently, causing possible serious damages to the craft as well as injuries to the occupants.



tions are closely parallel, working arrangements are readily effected, and in general good cooperation has been experienced. Such informal arrangements include close coordination of effort, effective liaison, exchange of information on safety patrol schedules and facility capabilities, and similar useful data. A number of States, have parallel laws but do not desire a signed, fixed agreement, feeling that it limits and restricts. Those particular States have a decided preference for the more flexible working arrangements they have with the Coast Guard. Nevertheless, increased efforts, are being made to negotiate agreements with all States.

A key role in the Coast Guard's operational efforts for boating safety is played by boating safety teams. The Coast Guard has 40 three-man boating safety teams. These are used to range beyond areas covered by Coast Guard stations, for safety patrols and examination of boats, public information, and education. They have proved very effective, and are being increased in number each year according to long range plans. However, the Coast Guard does not plan to increase the mobile units beyond what is now considered to be an optimum amount, approximately double the present number. States, counties, and municipalities are expected to provide the remainder of law enforcement and safety patrol facilities in their respective jurisdictions throughout the nation.

At any given time during the boating season in various parts of the country, 1,400 Coast Guard boats are estimated to be in use for boating safety reasons. The Coast Guard uses facilities from its larger vessels and from each of its operational stations, for patrols as well as rescue operations in recreational boating areas.

Financing its boating safety programs requires a considerable portion of Coast Guard funds.

About 16 percent of our operating and acquisition budget, or approximately \$72 million in 1967 was de-

voted to support of recreational boating, as follows:

	<i>In millions</i>
a. Coastal and harbor search and rescue devoted to recreational boating -----	\$42
b. Law enforcement and Coast Guard Auxiliary programs devoted to recreational boating----	5
c. Aids to navigation devoted to recreational boating -----	2.5
d. Merchant Marine safety efforts (inspection of life jackets, fire extinguishers, flame arresters, etc., at the factory) devoted to recreational boating--	.5
e. Replacement costs for depreciation of vessels, aircraft, and shore units allocated to recreational boating -----	19
f. Support costs for training, bases, depots, etc., which can be directly attributed to recreational boating safety needs----	3
	<hr/> 72

Methods of improving our service to the public and increasing our effectiveness with the boating industry are being investigated. A study is being conducted to develop a more streamlined method of assessing penalties for motorboat violations in a manner that will be less ambiguous and cumbersome, from the boatman's point of view.

It is hoped that all programs and legislation currently being considered will help make boating a truly safe, completely pleasurable pastime. To this end, the concerted efforts of everyone involved with recreational boating are needed. President Johnson, when presenting his Boat Safety Act, noted that the ultimate success of this program will depend on the cooperation of the boating industry, State and local governments, and the boat owners themselves.

From:
Outboard Boating Club
of America
333 N. Michigan Ave.
Chicago, Illinois 60601

Weight Problem?



Pounds add up in a small boat. Whether you're carrying persons, packages or pachyderms, you'll be a lot safer if you know your boat's weight capacity.

Many manufacturers install tags showing maximum limits for weight and engine horsepower. If your boat doesn't have one, take it to your dealer—he's equipped to determine these capacities, and he'll place a permanent capacity tag in your boat.

Remember: The number of seats in a boat isn't a reliable guide to passenger capacity.

**NATIONAL
SAFE
BOATING
WEEK** | **JUNE
30-
JULY
6**

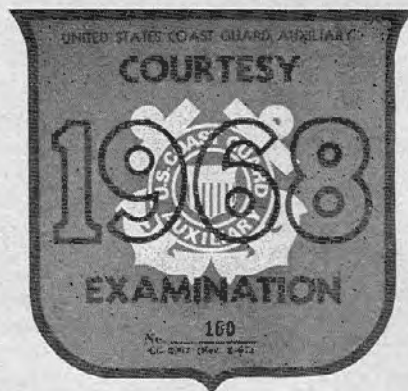


Auxiliarists conducting a Courtesy Motorboat Examination.

U.S. COAST GUARD AUXILIARY

Captain Robert C. Gould
Chief, Director U.S. Coast Guard Auxiliary

THE U.S. COAST GUARD Auxiliary was established in 1939 by an Act of Congress to aid the Coast Guard in promoting small boat safety. It is a civilian volunteer organization, having neither military attributes nor law enforcement powers. The Auxiliary's present membership of 24,860 is limited to citizens of the United States who are over 17 years of age and who own at least a 25-percent interest in a boat, aircraft, or radio station, or who have special qualifications useful to the corps.



The Auxiliary provides the Coast Guard with an extension of its forces in search and rescue patrols and in the fostering of safety consciousness on the water. The organization provides this service by participating in several basic programs.

One of the most important programs is the Auxiliary Public Education Courses offered to the boating public. Last year 180,749 people took advantage of these courses, which are intended to give the novice boatman adequate guidance in keeping out of



Knot tying is one of the basic elements of seamanship taught by the Coast Guard Auxiliary.

trouble on the water. The most comprehensive of the courses offered is the eight-lesson Basic Seamanship Course, which encompasses boat maneuvering, marlinspike seamanship, aids to navigation, rules of the road, and the legal responsibilities of the boatman. The three-lesson Safe Boating Course covers much of the material that is found in the eight-lesson course, but in less detail. The one-lesson Outboard Motorboat Handling Course is designed to introduce the boatman to the elements of safe motorboat operation, rules of the road, and rudiments of basic seamanship. In addition, courses are also offered to persons interested in sailing and radio marine communications.

Another major program of the Coast Guard Auxiliary is conducting

courtesy motorboat examinations, of which 163,252 were performed last year. A CME is performed only at the request of the motorboat owner. It is provided as a public service for the owner's benefit. Any violations noted are discussed, but no deficiencies are reported to the State or Federal authorities. The CME in effect is a private education program providing a valuable exchange of boating safety information. A boat that passes the CME and displays the decal awarded ordinarily will not be boarded by the regular Coast Guard or most enforcement officials unless an apparent violation in operation or equipment is noted.

To be eligible for the decal, the boat owner must go beyond the minimum Federal regulations and meet the higher safety requirements set

forth by the Auxiliary. Together, the Federal and Auxiliary requirements include the following:

1. Readily accessible C.G. approved lifesaving devices for each person aboard and in tow.
2. Fire extinguishers of approved type, number and size.
3. Navigational lights properly installed and operable.
4. If carried, a galley stove of recommended type and properly installed.
5. Permanently installed fuel tanks must be mounted so they cannot shift position.
6. Fuel tank vents properly installed and operating.
7. Fuel tank fill pipe for permanently installed tanks must be securely attached to the deck.
8. Reserve fuel tanks and portable fuel tanks secured tightly.
9. Carburetor drip pan on all side draft or up draft carburetors not having an effective sump.
10. C.G. Approved backfire flame control in inboard boats.
11. Compliance with industry recommended standards for ventilation of fuel tank and engine compartments.
12. Electrical installation in good condition and installed correctly.
13. Adequate anchor and anchor line.
14. A distress flare.
15. Vessel must be in good overall condition.
16. Class A motorboats, under 16 feet in length, must carry the following additional equipment:
Pump or bailer.
Paddle or oar.

Hand held red flares, or burning torch type are suggested by the Coast Guard Auxiliary for boating use. This type distress signal meets the standards of the Coast Guard Auxiliary and no permit is required.

Participating in regatta and safety patrols is another basic and impor-

tant program in which Auxiliary facilities act as an addition to the existing operating units of the Coast Guard. Since Auxiliarists are well-informed members of the community, they are able to advise the sponsoring organizations as to regulations and necessary procedures to follow. The same is true when Auxiliary facilities are used to assist the Coast Guard in search and rescue activities. Auxiliarists are local people who are well-trained boatmen, familiar with the waterways and weather conditions of the area. As such, they become invaluable assets to the Coast Guard.

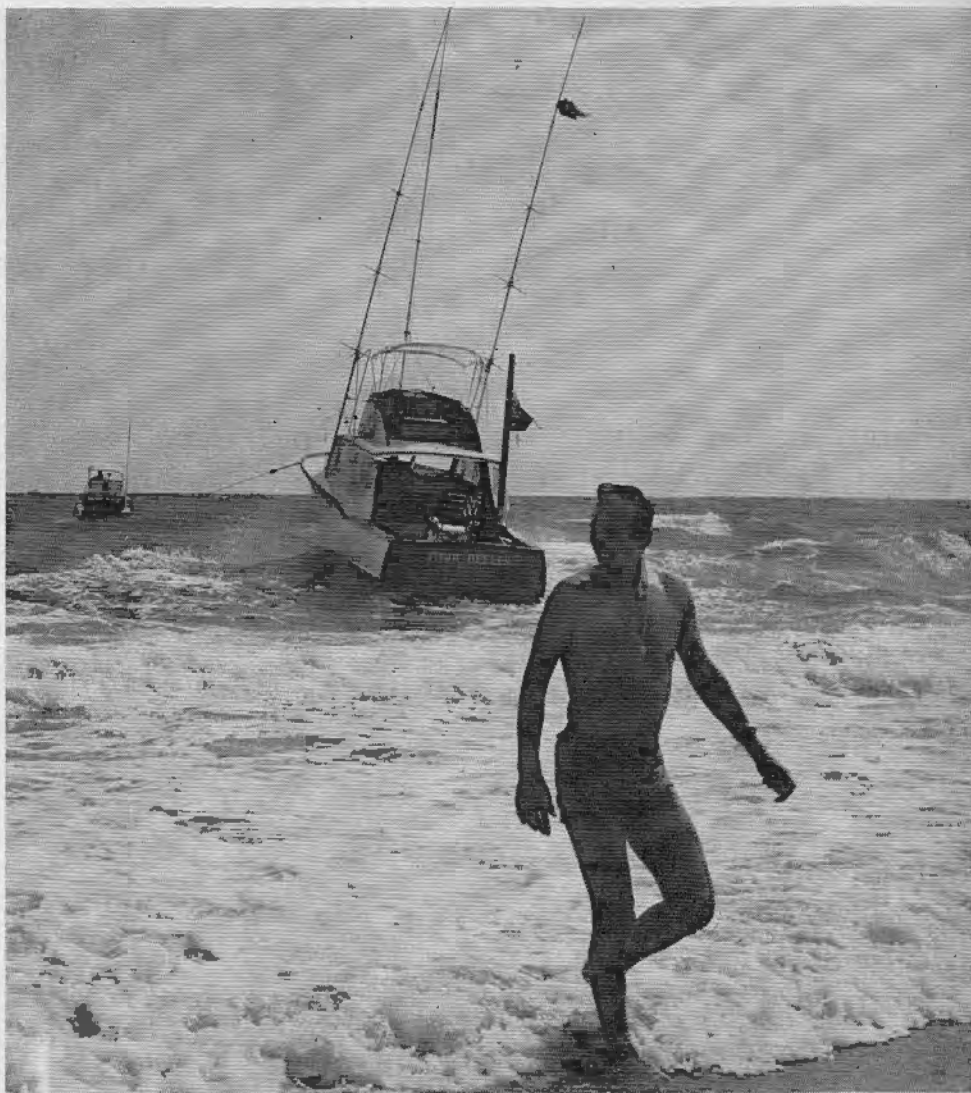
The Auxiliary's Project AIM (Academy Introduction Mission) program has aided in the promotion of interest and desirable publicity for the Coast Guard and the Academy by making students aware of the advantages of a career in the Coast Guard. Under this program, the Coast Guard Auxiliary and Coast Guard League units throughout the country sponsor a 4-day visit to the Academy for a selected number of high school students who have the potential for qualifying as candidates for cadetship from a physical, mental, and moral viewpoint.

The National Safe Boating Week Committee's program, originated by the Coast Guard Auxiliary, serves to focus the attention of the boating public on the need to know and observe safe boating practices. In the spring Safe Boating Week kits are distributed to hundreds of local and civic groups throughout the nation. The posters, TV and radio spots, and other promotional materials contained in the kit help to create a successful community and national observance. Recently the Committee's title has been shortened to the National Safe Boating Committee, in order to emphasize that safe boating should be practiced every week, all year round. The Auxiliary has been joined in this endeavor by other pub-

lic service groups, members of the boating industry, and the Coast Guard.

The Auxiliary has entered into an agreement with the U.S. Coast and Geodetic Survey on a chart correction program. Any hazards encountered or changes observed by Auxiliarists are reported to the Survey, which incorporates the changes on revised navigation charts.

While much of the Auxiliary's work is of a preventive nature—trying to keep accidents from happening—some of the organization's proudest moments occur when it lends a hand in distress cases. Last year, Auxiliarists were credited with saving 128 lives and performing 7,234 assists. For these acts of heroism, many of them received citations from the Commandant. ‡



An Auxiliary facility assists the Coast Guard in search and rescue activities by towing a pleasure craft off the beach.

BOATING STATISTICS

BOATING ACCIDENTS in 1967 decreased slightly from the previous year's total. There were also fewer fatalities and injuries and considerably less total property damage in 1967 than in 1966.

The latest edition of the Coast Guard's annual analysis of boating accidents, *Boating Statistics—1967* (C.G.-357), indicates that despite an overall decrease, an alarming number of accidents did occur. The report also points out that fatalities, injuries, and property damage result from the same types of casualties year after year. Most of these casualties result from carelessness and errors that could be avoided if constant attention were given to safety afloat.

There were reports of 4,113 boating accidents received by the Coast Guard in 1967, compared to 4,350 in 1966. The number of fatalities was nearly the same in both years: 1,312 in 1967, 1,318 the previous year. There were fewer injuries (1,365) in 1967 than in 1966 (1,555). The amount of total damage sustained in 1967 amounted to \$6,054,100, considerably lower than the \$7,334,500 of the previous year.

The results of 1967's boating accidents follow a familiar pattern. Coast Guard statistics indicate that in the past 5 years capsizings have accounted for more deaths than any other type of casualty. Collisions have been the largest single cause of personal injuries, while the greatest amount of property damage has resulted from fires and explosions.

CAPSIZINGS

The great majority of capsizings—the casualty claiming most lives—are attributed to some fault of the oper-

ator in handling his vessel. Chief among these faults are improper loading or overloading of the boat; ignoring weather warnings, and proceeding under unfavorable weather conditions; and operating in waters which exceed the limits of the craft and/or the operator's training or experience.

In most cases when a boat capsizes, the occupants should stay with the

overturned boat. Even alleged good swimmers attempting to swim to safety have succumbed before reaching shore. Also, you would be more easily located by a search plane or boat if near an overturned craft. All open boats should have positive buoyancy sufficient to support the passenger capacity when swamped or capsized. Also many small boats are now pro-



One of the leading causes of boating fatalities is overloading. In this overloaded rowboat the older youths took the precaution of outfitting the small youngsters with life preservers, but overlooked the possibility they also may need life preservers before the risky pleasure ride is finished. The number of seats does not indicate the capacity of a boat. If the boat has a capacity plate, its limits should be observed.

Following is a rule of thumb for passenger capacity of a boat that has no plate: length of boat multiplied by the beam, divided by 15 equals the number of occupants.

Distribute the load evenly from bow to stern and equally on each side, shifting if necessary until the boat rides on even keel.

vided with capacity plates which set forth the load capacity of the boat under reasonable operating conditions. These plates should be mounted in a location in easy view of the operator.

Every boat should have on board one Coast Guard approved lifesaving device for each person, whether on board of skiing. Life vests or preservers should be worn by all occupants under unfavorable weather conditions or at any other time when boating conditions are hazardous, and by children and nonswimmers at all times. In most drowning cases, cushions, vests, or preservers were in the boat, but were not used. During 1967, 82 percent of the drowning victims were aboard boats carrying lifesaving devices but failed to use them. Lifesaving devices should always be stowed in a readily accessible location.

In all cases, using good judgment and avoiding panic can prevent or at least help to minimize the serious consequences of a boat capsizing.

COLLISIONS

About half of the vessels reported in accidents were involved in collisions, accounting for most of the personal injuries.

The principal cause of a vessel colliding with another vessel or with a fixed object is the failure of the operator to maintain a forward lookout. The increasing popularity of water skiing has contributed to this safety problem. There should be a second person aboard to act as a lookout when towing a skier.

Common sense, as well as training and experience, should tell the operator to watch where he is going. Every operator should be familiar with the rules of the road and obey them.

FIRES AND EXPLOSIONS

Fires and explosions continue to account for the greatest amount of property damage, while ranking second in the number of personal injuries. Ves-



Both of these fishermen cast lines from the port side of their pleasure boat, jeopardizing the craft's stability. A bite on a line motivating just one man to shift or move to pull in his catch could cause the boat to capsize.

sel collisions in 1967 accounted for a nearly equal amount of property damage.

Three elements are required to cause a fire or explosion: oxygen, heat (ignition source), and fuel. If any of these elements is removed, such a casualty cannot occur. Oxygen is the most difficult element to control, since air is present in all areas of a boat. There may also be many sources of ignition throughout the boat such as the distributor, batteries, wiring and accessories. The element which is most readily eliminated is fuel, for fuel vapors can be minimized through the use of proper equipment and attention to safety.

Three steps are necessary to reduce the chance of flammable vapors collecting: (1) observe all safety precautions in handling volatile fuels; (2) have a safe fuel system installation and maintain it in good condition and (3) maintain a good ventilation system, which will conduct fresh air into each fuel and engine compartment and remove volatile gases from the area.

Boating is a growing sport, and there is every indication that its pop-

ularity will continue to rise. The boating industry estimates that there are over 8 million recreational craft in existence today. The Coast Guard last year recorded nearly 4½ million numbered boats. The swelling number of boats points to an increasing need for cooperation in boating safety. The increased use of the waterways need not signal a rise in casualties—if every boatman does his share in practicing safety afloat.

Last year, July was the month in which the greatest number of vessels were involved in casualties and the month in which the most deaths occurred. July is nearly upon us again. Will it be another peak month for tragedy? The answer lies with everyone who takes to the water this summer. Every boatman should exercise special prudence and consideration through the month of July, then continue the practice through every month and through every year.

Copies of the *Boating Statistics—1967*, C.G.-357, are available to all interested parties. The 68-page report may be obtained by writing to Commandant (ORB) U.S. Coast Guard, Washington, D.C. 20591. ‡

Death Seat

It's all too easy, when cruising along on a pleasant summer day to forget that danger is close at hand. Yet the simplest act of carelessness may court disaster.

One day last August a group of teenage boys set out to do a little water-skiing. Three boys rode in the boat, towing a skier at a good clip on a calm lake. Without warning the ski tow rope parted at the transom, tumbling the skier into the water. The operator turned abruptly to retrieve the skier. The boat heeled during the turn and one of the passengers, who was seated on the gunwale, fell over backward into the water. Seconds later the two boys remaining in the boat felt a slight jar as if the craft had hit a log.

The body of the boy who had fallen overboard was recovered 6 days later. He had died as a result of being struck by the boat's propeller.

Had the victim been seated in the boat, rather than on the edge of the gunwale, this casualty could have been avoided. This accident is only one of many whose proximate cause was sitting on the gunwale. ‡

Two Who Returned

One clear day last summer a father and his son were fishing off the Washington coast, their 16-foot outboard motorboat drifting in a calm sea. The man noticed a tug passing astern within about 300 feet. A barge she was towing took a shear to port, and the man failed to see it until it was nearly on top of his boat.

With the barge closing on the boat and collision inevitable, the boy

grabbed his lifejacket and put it on. His father helped him over the side and put an arm through his own lifejacket. The next thing the man remembered was being under the barge, "able to see the dark side and the light side."

The father, struggling, found himself free of the barge but unable to surface because of strong eddies. He finally reached air, his lifejacket still around his arm, and spotted his son several yards away. The man swam to his son and both were taken from the water minutes later by a cruising pleasure craft. They suffered minor injuries.

Quick thinking by the man and boy saved their lives. They had lifesaving devices and—what's more important—they used them when the chips were down. The happy result was their return to shore, rather than the addition of their names to the list of drownings. ‡

Carelessness Kills

Improper loading of small boats is an invitation to disaster, an invitation that is all too often accepted. There can be no sorrier case of improper loading than that which occurred last summer off a Puerto Rican beach.

A homemade wood boat, 16 feet long—with a cabin yet—and powered by a 50-hp outboard motor, was launched and taken out on her maiden voyage. The weather was clear, but seas were moderately rough, with swells of 5 to 6 feet ushered along by a 15-knot breeze. The little boat successfully completed a short test run with five people aboard and headed back to the landing.

Back on shore, the members of the owner's family who were left behind on the first trip insisted that they be given a ride. So, five more people came aboard. These five could not swim, and they entered the boat's cabin. The other five persons stood on deck, some clinging to the outside of the cabin. The latter were good swimmers. There were reportedly 10 life preservers aboard, but they were stowed up forward and not readily available.

After about 15 minutes, the operator decided to return to the landing. About 300 yards off the beach a turn to port was made and the boat was struck broadside by the sea. The boat listed to port, capsized, rolled over several times, and finally settled in an inverted position.

The five persons on deck were thrown clear and picked up by a passing motorboat. The five in the cabin were trapped and perished. Poor judgment and improper loading had taken their toll. ‡

Improper Loading

Another case indicates the care that must be exercised in maintaining satisfactory trim. A man and his wife together with their infant son and another adult were on a fishing trip on Chesapeake Bay early last summer. The water was calm, a light wind blowing, and the current was at maximum flood. The party's craft was an 18-foot outboard motorboat.

The operator attempted to anchor with the motor still running and the boat making some headway, causing the anchor line to become entangled in the propeller. The operator went aft, tilted the motor to get the propeller out of water, and leaned over to

unsnap the anchor line. His friend and his wife rushed to hold him and prevent him from falling overboard. The additional weight in the stern reduced the freeboard so that the water poured over the motor cutout in the transom. The adults held on to each other and the infant as they attempted to don life vests. The boat finally foundered and overturned. The infant was swept from the parents' grasp and drowned.

The boat in which this tragedy occurred had insufficient freeboard at the transome. Overloading at the stern doomed the craft and the helpless infant. The case points up an obvious rule of thumb: know your boat and load accordingly. Sudden shifts of weight can spell disaster. ⚓

Safety Tips

The best thing for boatmen to do in case of bad weather is to stay in port, advises the committee for National Safe Boating Week, June 30-July 6. However, here's what to do if you are caught out on the water by bad weather:

Head for the nearest sheltered shore. If the water is very choppy, seat your passengers in the lowest part of the vessel, keeping them as close to the centerline as possible and head into the waves at reduced speed.

Should your motor fail, or if the sea is so strong you cannot make headway, attach a sea anchor from the bow to keep the boat headed into the wind—a bucket or a shirt with the sleeves knotted together attached to a line may do the job in an emergency.

Keep calm. Panic spreads easily, and a well-found small boat is capable of surviving nicely in bad weather if handled calmly and correctly. ⚓

Named To New Coast Guard Boating Safety Post

Rear Admiral William L. Morrison has been named to the newly created post of recreational boating safety coordinator for the U.S. Coast Guard. He will be responsible for communicating the objectives of the Coast Guard boating safety program and boating legislation to all segments of the industry, the boating public and related organizations. Admiral Morrison has been serving as assistant to the general counsel in the office of the Secretary of Transportation. ⚓

Boatmen Keep a Weather Eye

Weather sense begins before leaving the dock. A quick call to a Weather Bureau marine forecast number should be routine for every boating enthusiast. And when on the water, boatmen should keep a weather eye peeled for a change that could produce dangerous weather or sea conditions, catching smaller craft in unsheltered waters. Small boat operators should always heed storm warning signals.

The Weather Bureau publishes Coastal Warning Facilities Charts for local areas on the coasts, Great Lakes, Puerto Rico, and Hawaii. These charts contain pertinent information on Weather Bureau offices, AM, FM, and TV stations broadcasting marine weather forecasts, marine radio telephone stations, air navigation radio stations, and the Bureau's VHF-FM stations. The charts also include the location of storm warning display stations with explanations of their meanings.

The charts can be purchased for 10 cents apiece from the Superin-

tendent of Documents, Government Printing Office, Washington, D.C. 20401. State the local area desired.

Coast Guard stations broadcasting marine forecasts, as provided by the Weather Bureau, precede their routine report on 2670 kc/s. with an announcement on 2182 kc/s. Urgent warnings are transmitted immediately on 2182 kc/s. ⚓

Other Sources of Boating Information

There are many sources of boating information and education in addition to the Coast Guard and Coast Guard Auxiliary.

The U.S. Power Squadrons, a nationwide association of boatmen, conduct an extensive program of boating instruction. The local squadrons throughout the country offer a 12-lesson course in piloting, seamanship, and small boat handling to the public, while advanced courses are available for Power Squadron members. For starting dates and locations of classes in your community, contact the squadron commander in your area or write to USPS Headquarters, P.O. Box 510, Englewood, N.J. 07631.

Local chapters of the American National Red Cross offer educational programs in various phases of water safety. Included are 1-hour dry-land demonstrations of required and recommended equipment, as well as a small craft course.

Yacht and boating clubs present a variety of courses, while many private and public programs of adult education feature courses in small craft handling.

Over a quarter-million boatmen each year take part in some sort of formal education in things nautical. It's one of the best ways to learn more about this growing sport. ⚓

Q. In thick weather, you may definitely identify a lighthouse by:

- (a) the sound or type of fog signal.
- (b) the number of blasts.
- (c) by timing the fog signal given.
- (d) all of the above.

A. (d) all of the above.

Q. How are junctions and obstructions marked?

- (a) By buoys with black and red or red and black horizontal bands.
- (b) By black can buoys with bell or whistle.
- (c) By red unlighted whistle buoys.
- (d) By yellow spar buoys.

A. (a) By buoys with black and red or red and black horizontal bands.

Q. A black can buoy marked with a yellow square on its side signifies that the:

- (a) buoy is a portside buoy in the intracoastal system of marking.
- (b) buoy marks a quarantine anchorage.
- (c) buoy marks a fish net area.
- (d) buoy marks one end of a measured mile course.

A. (a) buoy is a portside buoy in the intracoastal system of marking.

Q. If the magnetic heading is greater than the compass heading, the deviation is:

- (a) East.
- (b) West.
- (c) North.
- (d) South.

A. (a) East.

Q. The recognized calling and distress frequency for radiotelephony is:

- (a) 2100 kilocycles. (kilohertz)
- (b) 2182 kilocycles. (kilohertz)
- (c) 6180 kilocycles. (kilohertz)
- (d) 4298 kilocycles. (kilohertz)

A. (b) 2182 kilocycles. (kilohertz)

Q. A range is known to be $176\frac{1}{2}^\circ$ true. You have the ranges in line and dead ahead. The variation shown on the compass rose is $6\frac{1}{2}^\circ$ westerly.

If your compass has no deviation, the compass heading should be:

- (a) $176\frac{1}{2}^\circ$.
- (b) 170° .
- (c) 183° .
- (d) $180\frac{1}{2}^\circ$.

A. (c) 183° .

Q. On what color buoy would you find a short-long flashing light characteristic?

- (a) Red.
- (b) Black and white vertical stripes.
- (c) Red and black horizontal stripes.
- (d) White and green horizontal bands.

A. (b) Black and white vertical stripes.

Q. In coming from seaward, what unlighted buoys mark the starboard or right-hand side of the channel?

- (a) Red, odd-numbered, nun.
- (b) Black, odd-numbered, can.
- (c) Red, even-numbered, nun.
- (d) Yellow, even-numbered, can.

A. (c) Red, even-numbered, nun.

Q. The inner compass rose is offset from true directions by an amount known as:

- (a) Variation.
- (b) Deviation.
- (c) Compass error.
- (d) None of the above.

A. (a) Variation.

Q. If a chart indicated a depth of water of $6\frac{1}{2}$ fathoms and your deepest draft was 2 feet, what is the depth of water under the keel in feet?

(consider the actual depth to be the same as the charted depth):

- (a) 27 feet.
- (b) 4.5 feet.
- (c) 30 feet.
- (d) 37 feet.

A. (d) 37 feet.

Q. Before starting a gasoline engine on a motorboat, you should make sure for safety:

- (a) That gasoline tank is full.
- (b) That bilges, cabins, etc. are thoroughly ventilated until free of gasoline vapors.
- (c) That you have fresh water on board.
- (d) That each of the above is followed.

A. (b) That bilges, cabins, etc. are thoroughly ventilated until free of gasoline vapors.

Q. If because of fire, you must abandon your vessel while far at sea, you should:

- (a) Separate from others as this will increase your chances of rescue.
- (b) Row or paddle away from vicinity as sharks will be attracted to the area.
- (c) Row or paddle off to a safe distance and lay to, as the smoke and flames may attract rescue vessels.
- (d) Head for the nearest land immediately.

A. (c) Row or paddle off to a safe distance and lay to, as the smoke and flames may attract rescue vessels.

Q. The distance between two points on a small scale mercator chart is measured:

- (a) On the latitude scale at the lowest latitude.
- (b) On the longitude scale near the longitude between the two points.
- (c) On the latitude scale near the latitude between the two points.
- (d) On a special scale on the chart.

A. (c) On the latitude scale near the latitude between the two points.

SAFETY FIRST

boating's golden rule

OBSERVE THESE SAFETY RULES—

- 1 • Know your boat
- 2 • Don't overload
- 3 • Keep a good lookout
- 4 • Operate at safe speeds
- 5 • Respect the weather
- 6 • Take sufficient fuel
- 7 • Keep your boat in shape
- 8 • Carry necessary equipment
- 9 • Secure your boat properly
- 10 • Obey the law

- You are responsible for your wash and wake.
- Reckless operation is punishable by fine and imprisonment.
- Boats in your "Danger Zone" have right-of-way and should hold course and speed. Learn and exchange proper whistle



signals to avoid misunderstanding.

- An overtaking boat is the burdened vessel.
- Sailboats have right-of-way except when overtaking. Pass them wide to leeward.
- Large vessels and tows are not quickly maneuverable. Keep clear—give them room.

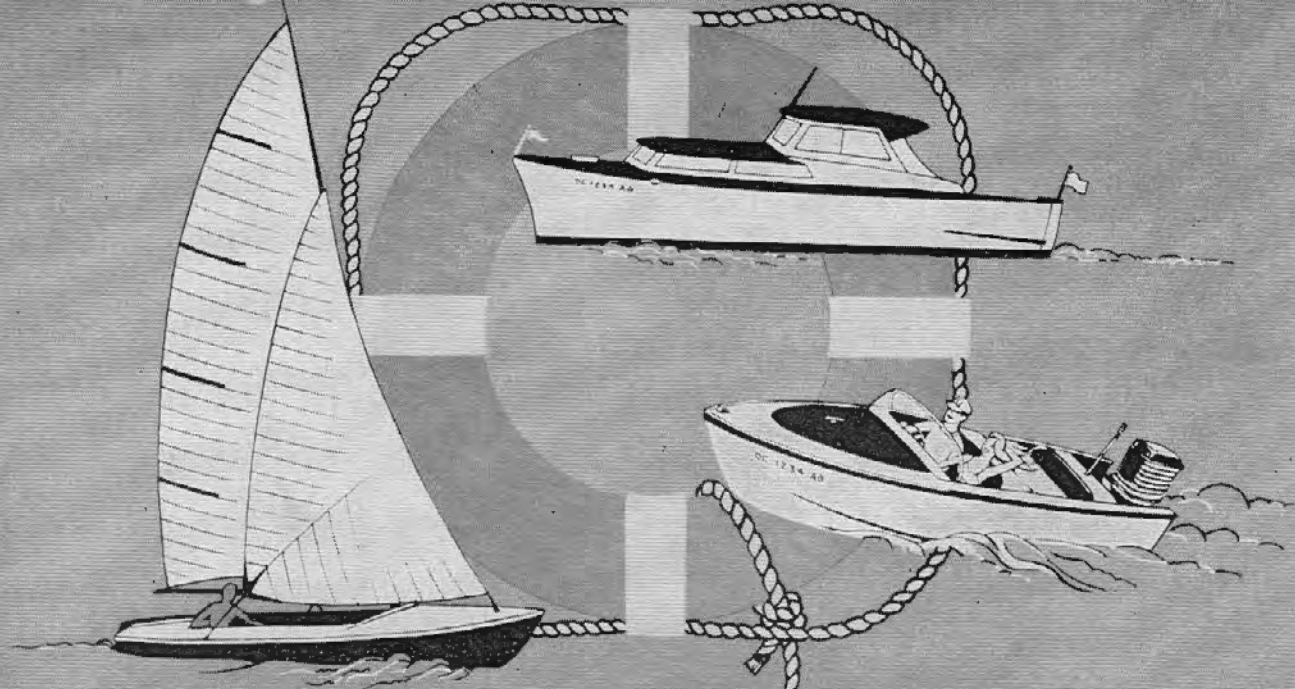
Be courteous and careful at all times!

NATIONAL SAFE BOATING WEEK COMMITTEE

American Boat and Yacht Council, Inc.
The American National Red Cross
American Power Boat Association
American Water Ski Association
Boy Scouts of America
Girl Scouts of the United States of America

National Association of Engine and Boat Mfrs., Inc.
National Association State Boating Law Administrators
National Safe Boating Association
National Safety Council
Outboard Boating Club of America

United States Army Corps of Engineers
United States Coast Guard
United States Coast Guard Auxiliary
United States Power Squadrons
Yacht Safety Bureau
Young Men's Christian Association



NATIONAL SAFE BOATING WEEK JUNE 30 - JULY 6, 1968

SAFETY FIRST

THE GOLDEN RULE
OF BOATING
THAT INSURES
HAPPY
DAYS AFLOAT