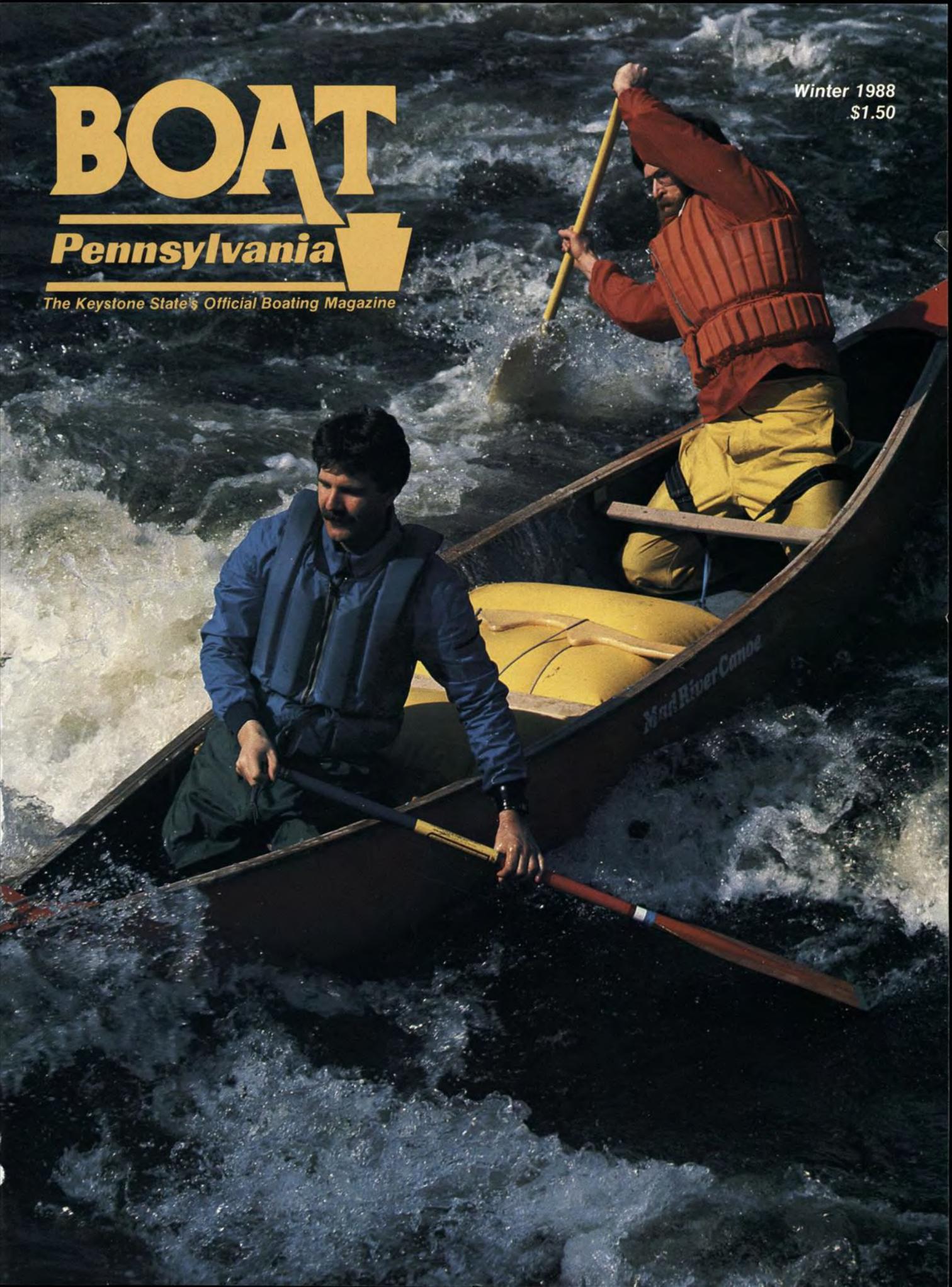


BOAT

Pennsylvania

The Keystone State's Official Boating Magazine

Winter 1988
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VIEWPOINT

Marine Fuels Tax



John Simmons
Acting Director
Bureau of Boating
Pennsylvania Fish Commission

As we look out our windows, see the snow blowing and watch the water harden, it seems strange to be thinking about another boating season. But winter will be over before we know it and it will again be time to drain the antifreeze and wax the hulls. Around the Fish Commission we are already putting the finishing touches on the 1987 annual reports and preparing for another year.

One of the reports that we don't mind doing is the annual petition for refund of marine fuels tax. Each year the amount of gasoline used in motorboats is calculated from information supplied by boat owners on their annual registration renewal notices. On petition to the Pennsylvania Department of Treasury, the Commission is granted a refund of all tax paid on this fuel for use in funding its boating programs.

The marine fuels tax contribution to the Boat Fund has been substantial. In 1987, Pennsylvania boaters reported using 11,685,968 gallons of gasoline. This calculates to a reimbursement of \$1,402,316 at 12 cents per gallon. About 30 percent of Boat Fund revenue in 1987 was attributed to the marine fuels tax. Since 1971 over \$18 million has been deposited in the Boat Fund from this source of revenue. This is more than is collected from registration fees, which amounts only to about \$14 million over the same period.

The marine fuels tax has in large part been the reason why an increase in the registration fees has been avoided since 1964. Were it not for this source of revenue, registration fees would have to be at least twice what they currently are.

As impressive as these figures sound, we think that the boaters of Pennsylvania may be shortchanging themselves. A national study has shown that boating uses about 1.08 percent of all gasoline sold. But in Pennsylvania the percentage is less than one-quarter of one percent. There may be several reasons for this discrepancy. One of which is that 60 percent of the boats registered in Pennsylvania are under 16 feet in length and would, by the nature of the engines used, typically use less gasoline.

We think there is another reason that has a far greater impact. Of the 250,000 boats that were registered last year, 70 percent recorded a figure in the fuel use block of their registration renewal application. Some 30 percent of these registrants reported using no gasoline at all. It seems odd that over 50,000 boats would be registered and then not be used at all during the year. Could it be that the owners of these boats simply marked zero instead of taking time to estimate the actual amount used, not realizing the effect that this has on the tax refund?

Considering these statistics another way, only half of Pennsylvania's boat registrants reported using any gasoline. If the other half used an average amount of fuel, the total amount of fuel reported on our petition for refund could be off by a substantial amount because the calculated average use per boat would be much lower than the actual use.

How do you stack up? The summary of the 1987 boat registration fuel survey shows that registrants with boats under 16 feet used an average of 23 gallons of gasoline. Registrants with boats 16 to 26 feet averaged 90 gallons. Registrants with boats 26 to 40 feet used 233 gallons and registrants with boats over 40 feet used a whopping 237 gallons each. Unfortunately for the fuel tax refund, only 153 boats are registered in this category and the contribution from this group is limited. The average boater in Pennsylvania uses relatively little fuel in the enjoyment of his sport, but combined with the total number of boaters the total usage results in a substantial contribution to the funding of the boating programs in Pennsylvania.

Safety patrols, education, and facilities construction and maintenance depend on the receipt of the marine fuels tax refund for full and adequate funding. When completing this portion of your registration renewal, be sure to provide the Commission with an accurate estimate of the amount of fuel purchased for use in your boat. The tax has already been paid. It is only a question of whether or not the Commission gets this money for use in developing programs that benefit the boaters of the Commonwealth.

John Simmons

BOAT

Pennsylvania

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Graphic Designer/Ted Walke
Photographer/Russ Gettig
Circulation/Eleanor Mutch
Staff Assistant/Rose Ann Bartal
Staff Assistant/Charlene Glisan



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The cover

R. Hamilton Smith photographed the canoeists on this issue's front cover. This time of year might not be the best for paddling, but there's still plenty to do. For the details, see page-16. Waterways conservation officers cover a lot of ground—and water—on patrol, and one WCO's story begins on page 4. For some boating details on Presque Isle Bay, turn to page 7. For some cruising information on Blue Marsh Lake, check out page 14. And for information on the new get-wet sport, see page 28.

This issue's back cover, photographed by Paul Jenkins, shows an ice boater plying the hard water of Presque Isle Bay.

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A Routine Patrol from the Diary of a WCO

by Guy Bowersox

Sunday, May 31st, 1987—1500 hrs.: I leave headquarters and meet DWCOs Baker and Ciesinski at Blackrock Boat Club with their patrol boat. Traffic is heavy on the Schuylkill River today, and it looks like some pretty wild operators are in action.

We launch the 17-foot Lowline jet patrol boat. Baker and Ciesinski will work the pool afloat, while I provide surveillance and support from shore with the patrol car and work the Commission Phoenixville PFC launch access.

We part company, and within five minutes I observe several operation violations near the launch ramp. I radio for the patrol boat to stop the violators and have them come to me at the dock, but the DWCOs have already encountered three rafts and a canoe traveling in a party with no personal flotation devices (PFDs) on board for their passengers. None of the subjects has identification, and their vehicles are parked miles downriver. The DWCOs radio me to come to their location via car—to transport subjects for their vehicles and identification.

I make note of the violations I've observed and proceed to meet the DWCOs at the Phoenixville Water Works.

The DWCOs land the patrol boat and tell me they've ordered the rafts and canoe to follow and beach next to them. They've lent them PFDs, but the violators are not yet in sight.

Baker decides to walk downriver to see if they've beached farther down. A 15-foot motorboat races by Ciesinski and me at high speed—headed upriver with two passengers riding atop the gunwale portions of the bow. Very dangerous—no form of railing is visible.

I jump onto the patrol boat, leave the DWCOs with my car and back onto the river. I observe the rafts and canoe downriver—acting as though they're unsure if they want to come to shore, so I quickly motor to their side and give them an authoritative order via the 100-watt public





Illustration—George Lavanish

address system to put ashore immediately. These folks are somewhat slow in understanding directions given to them by uniformed officers, and need to have a second translation a bit more audible—before they decide to comply. They've been drinking beer, and appear to be feeling it. They'll probably keep the DWCOs busy writing for a while. I make sure the group is landing on shore and then take off upriver to find the 15-footer.

I locate it as it is returning downriver, turn on the blue light, and signal the operator to stop.

I pull alongside, identify myself, and request registration documents from the operator. He has no registration documents for the boat bearing New Jersey numbers, nor does he have any form of identification on board. He claims his ID is on shore at the launch area. He says he's applied for registration, but has no proof of ownership or registration application. He claims that he just bought the boat from a fellow in Philadelphia, and sent the original bill of sale to Harrisburg with a registration application.

I check the bow of his boat, and find that he's removed the tops from the seats located in the bow. There are four persons on board, and although there are four good seats amidships, the operator allowed two of his passengers to sit high on the sides of the bow while under way—with no protective railing to keep them from becoming flying objects, should he find it necessary to turn sharply or come to a sudden halt.

I inspect his craft for safety equipment, and find he only has three PFDs on board. He's short one device. I order him to return to the launch area, secure his ID and wait at dockside. Either a deputy or I will meet him there shortly.

I return to the Water Works and find the deputies busy writing information. Baker will use the patrol car to transport two of the subjects for their vehicles and ID, while Ciesinski will stay with the remainder of the group and their watercraft. I head down to the launch site via boat for the earlier arranged appointment.

I meet the 15-footer operator at the dock and question the facts surrounding the purchase and ownership. I run the hull ID number through an NCIC computer check to see if it's listed as stolen. Negative.

Satisfied that the operator has presented me with proper ID and is probably telling me the truth, I issue him a field acknowledgement of guilt for insufficient number

of PFDs, give him a warning for the passengers riding on the bow, and give him five days to mail me proof of ownership and proof he has already applied for registration—advising him that further investigation may result in additional charges if he hasn't been honest.

While I'm writing his field acknowledgement, a man approaches me at dockside and claims that someone has just stolen his boat trailer license plate while the trailer was parked in our PFC parking lot.

Deputy Justice Protector (DGP) Alan Henry has just arrived, and I ask him to take information from the complainant and radio for a Phoenixville Police unit to stop by to take a theft report and enter it on the computer.

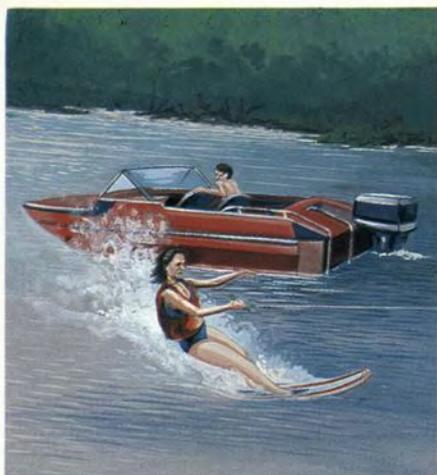
Baker returns my car and takes the boat back to Ciesinski, where they will issue field acknowledgements to the rafters.

I'm back to writing the 15-footer's acknowledgement when I observe an open aluminum 14-foot boat with two persons in it, towing a skier behind—heading past me. The boat has a small center console. The operator is standing while operating—not behind the wheel—but is standing sideways in front of the console with his right arm stretched back to the wheel and his left hand on his hip. It's an accident waiting to happen in this heavy traffic.

I radio the deputies after I've written down the registration number, and request they respond, pursue and stop the boat and have the operator return to me at dock. They've processed and released their suspects, but have already stopped two more canoes without PFDs and are busy processing. The 14-footer will have to wait. I complete the FA I've been working on and release the operator of the 15-footer.

A man launches a Jet Ski from the ramp and heads upriver. Moments later, he returns to the ramp at high throttle through the posted "No Wake" zone and beaches at my feet. I ask him to look behind him—and he sees the large wake he's made, but has an attitude like he could care less. He acknowledges that he's made a wake and that he's seen the no-wake buoys.

I explain the violation in detail and break the news that he will be issued a ticket. I explain his rights of settlement. A friend decides to try to intercede for him, and this stimulates both of them into becoming argumentative.



It's hot, humid and hectic. I'm in no mood to argue—we can argue in court. I so advise the violator, and he decides he wants a citation for a hearing.

I'm about to oblige him, when I observe the 14-foot aluminum boat return downriver and drop his skier mid-river in front of the ramp. He's attempting to pick up his skier when along comes another boat towing a skier at a high rate of speed. This boat passes within 30 feet of the drifting 14-footer, and its skier comes within 4-10 feet of the it—splashing water on its occupants. A real near miss. Too close to ignore, I note the time and registration number and issue the argumentative Jet-Ski operator a citation for exceeding minimum height swell speed within 100 feet of the dock and ramp inside a posted no-wake zone.

I hear from Baker and Ciesinski, and direct them to have the 14-footer come to shore, and then to search for the other boat. When they get to the dock, I inform the operator of the 14-footer that he was operating his boat while standing in a very dangerous manner while under way, and inform him he will be issued a ticket.

This violator acknowledges his error, but wants to lodge a complaint against the fellow who almost hit them with a skier. I inform him that I have plans for that operator also, but would like to know if he's willing to identify the operator for me and testify in court. He informs me he would be happy to. I issue him a FA for standing while under way, and the other boat is directed to me at dockside.

The 14-footer operator identifies the other operator involved in the near miss, and I confront this man with our accusations. He admits to nearly striking the boat with his skier, and after I inspect his boat for other violations, he settles via FA.

It's already 1900 hours, and we've done nothing but write tickets since we launched the boat. I need a change of pace and scenery. Baker and Ciesinski will stay out on the patrol boat. Deputy Game Protector Henry joins me in the patrol car, and we head downriver to check fishing activity just below the boat pool at the Mont Clare Canal and Black-rock Dam.

We turn onto the towpath separating the canal and river, and spot a yellow paddleboat traveling the canal with two juveniles on board.

I stop the car, and we ask the boys to see their lifesaving devices. One lad says, "Honest officer, we just found the boat along the shore." They have no PFDs on board. A bit of interrogation follows, and sure enough, we've just captured a stolen boat—complete with the bandits (ages 13 and 14). A nearby resident approaches the opposite shore and believes he recognizes the boat as one belonging to a local businessman who lives approximately a ½-mile down the canal.

I take the lads into custody in the patrol car—leave DGP Henry behind to guard the stolen boat, and we take a ride to the suspected owner's home and business.

Yes, he owns a yellow paddleboat. No, he doesn't keep it along the shore. He keeps it behind the wall of his garage. I ask him if he would check to see if it's there.

The boys and I walk behind the garage with the owner and find that the boat's not there. A tearful, somewhat fearful confession spurts out with pleas not to arrest them. The owner leaves the course of action for punishment up to me. He'd like to have his boat back as soon as possible, but it's all right with him if no charges are filed against the desperados.

I tell the boys that I want to check with the local township police before I make up my mind. I check if they've been into other trouble with the police and received previous warnings.

I radio Upper Providence Township Police Corporal Sherrard, and request he meet me at the canal to check out the two juveniles with me. The boys and I return to DGP Henry and the stolen boat.

DGP Henry informs me that an elderly man from the city had just approached him and requested help. He and his 12-year-old son had been fishing. Five hours ago, the boy had taken all the bait, and had gone off with another

man allegedly to fish at a dam. It was now getting dark. The man was panicked and in tears. His son was lost, and he feared the worst. He had written down the other man's name on the palm of his hand. They were from Philadelphia and were unfamiliar with the area. Could we please help.

I radio Corporal Sherrard, who was already en route, and advise him that we now also have a lost child situation. Then I radio the deputies to come downriver in the boat and search the shoreline to the dam.

DGP Henry proceeds afoot to search and question other anglers, and radios a description of the victim to the DWCOs.

Meanwhile, Corporal Sherrard arrives and we obtain more information from the victim's father, and assure him we would do everything possible to locate his boy.

Within several minutes, DWCOs Ciesinski and Baker find the lad and the older man. They are right where they said they would be—fishing at the dam. The channel catfish were biting so well (they had a large stringer full) that they had forgotten all about the time and poor worried dad.

DGP Henry transports the boy to our location, where he is reunited with his dad. We receive numerous tearful thanks from dad, and they leave for a return to the city.

We then resolve the boat theft case by documenting the names and personal information of the "Huckleberry Finn" crew, issue them stern warnings complete with lecture, and send them home.

The boat owner arrives with a vehicle to transport his boat, and we help him load it. After several words of thanks, he departs, and we regroup with Ciesinski and Baker.

Both Ciesinski and Henry have to call it quits for the day. Baker and I park the trailered patrol boat, and set out for night shore patrol.

Two non-licensed anglers soon fall prey to the working sleuths near the mouth of the Perkiomen Creek. They are processed and released.

We then pick up the patrol boat and trailer it to its storage site for security. We part company and return to our headquarters.

Another routine weekend day's patrol along the Schuylkill. It is now 0200 hours, June 1, 1987.

Guy Bowersox is the waterways conservation officer for eastern Berks County and northern Montgomery County.



Presque Isle Bay, Jewel Of Lake Erie

by Paul Jenkins

Some call it the best natural harbor on the Great Lakes. Others say it's one of the best bays for sailing, fishing and boating in the northeastern part of the country. Still others call it their favorite boating vacation spot because of its protected anchorages, boat ramps and docking facilities.

All these things are said about a place in northwest Pennsylvania called Presque Isle Bay.



Presque Isle Bay, about 4½ miles long and a mile wide at its widest, is formed by the long, sweeping arm of Presque Isle Peninsula, which juts about 2½ miles into Lake Erie. The peninsula is also a state park. Presque Isle State Park is the most visited state park in Pennsylvania



and one of the most popular parks in the nation.

The bay's only entrance channel, located at the east end, is 25 to 28 feet deep and is regularly dredged by the United States Army Corps of Engineers, which also dredges other areas of the bay that are used by freighters and deep-water ships. The commercial shipping season runs from May through November and is mainly confined to the east end of the bay. This traffic is light and seldom causes any problems for pleasure boats.

The south shore of the bay, which borders the city of Erie, provides many docking opportunities for visiting boaters. Both commercial marinas and private yacht clubs offer overnight mooring and marine services.

Immediately east and west of Dobbins

Landing, which is the main city dock at the foot of State Street, are several establishments that offer boating services. To the west, and inside the west basin, is Presque Isle Yacht Club, which has limited visitor docking and is within short walking distance of the downtown area.

About a mile to the west of Dobbins Landing, on the south shore of Presque Isle Bay, are two commercial marinas and one yacht club. Commodore Perry Yacht Club offers limited overnight visitor dockage, as do the commercial marinas. About a mile-and-a-half farther west is Erie Yacht Club, which is Erie's largest private yacht club. The Erie Club also welcomes visiting boaters and has limited dockage, dining, and pump out. All three Erie yacht clubs offer shower facilities.

Public marinas

There are two public marinas in the Presque Isle Bay area. One is the John Lampe Marina, which is located south of the Erie Bay channel, on the lake side. Lampe Marina is a modern facility that offers basic marine services, which include pump out, fuel, and limited overnight dockage. A big plus at Lampe is two large boat ramps bordered by floating docks. The parking area is also very generous, and only becomes congested on exceptionally busy weekends. The other publicly owned and operated marina is located on Presque Isle State Park on a small inner park bay. It's called Presque Isle Marina and is a perfect calm-water anchorage that also has a well-maintained boat ramp. There is also limited overnight docking and fuel.

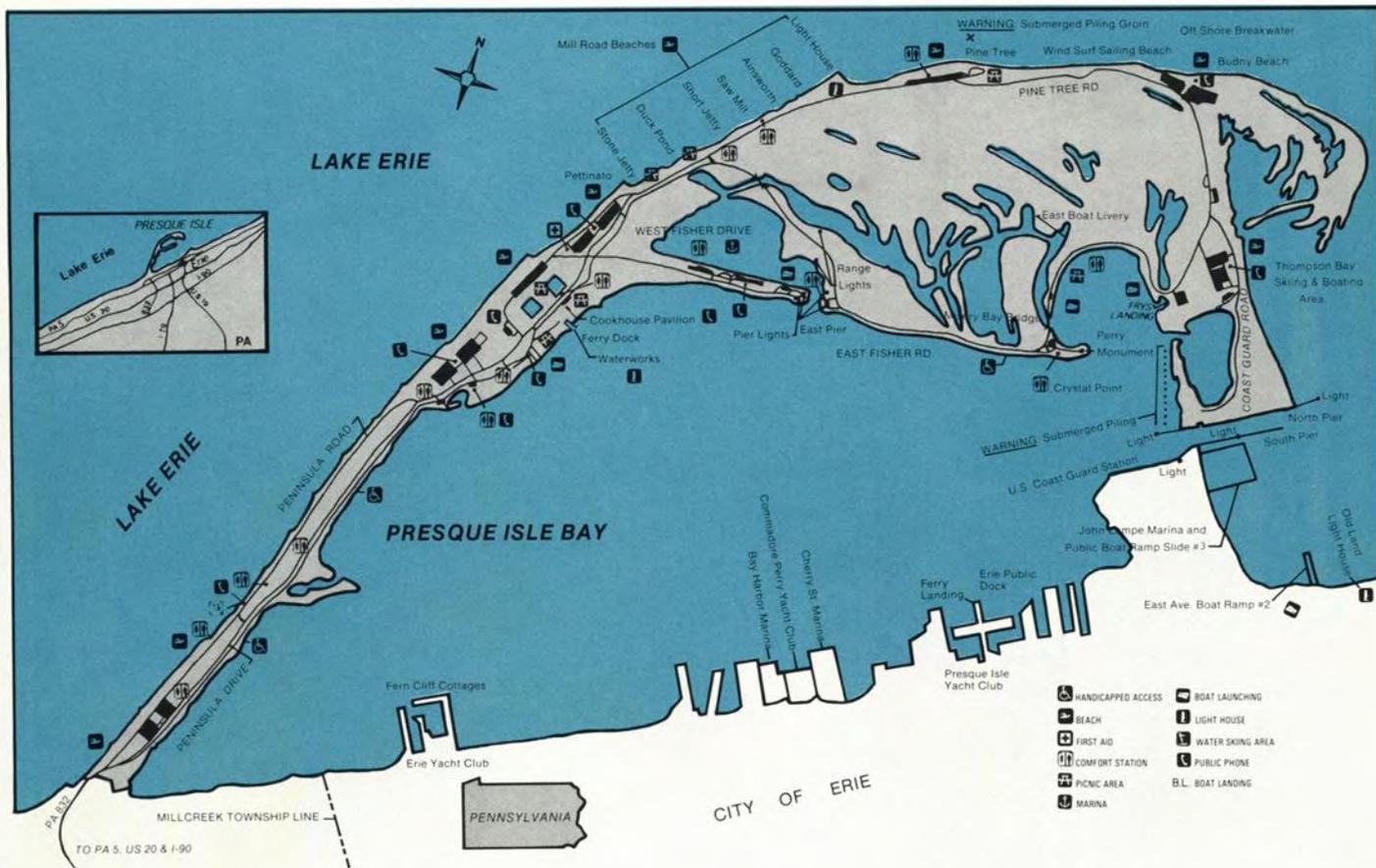
One of the main advantages of mooring on Presque Isle State Park is what the park itself offers. Presque Isle is a 3,202-acre peninsula jutting seven miles into Lake Erie. There are 11 miles of sandy beaches that are great for swimming and picnicking. The park is also known for its unsurpassed scenic beauty. On top of the list is its beautiful sunsets, that were rated among the 10 best in the nation by *National Geographic* magazine.

History

Presque Isle and the Erie area have a rich history. During the early years of our country, four states—Connecticut, Virginia, New York, and Massachusetts—claimed ownership of Presque Isle. The disagreement was settled when their claims were turned over to the federal government, which sold the land to Pennsylvania.

The Presque Isle Peninsula protected Commodore Perry's fleet during construc-





tion before he sailed to fight the British fleet during the War of 1812, in which he was victorious. A replica of Perry's Flagship, *Niagara*, which was on display at the foot of State Street, is currently dismantled to prepare for a new floating version that will be displayed in a maritime museum that is presently being planned.

Meanwhile, Erie boating visitors have a good selection of historical sites to explore. One is the Anthony Wayne Blockhouse, located on Garrison Hill, on the grounds of The Pennsylvania Soldiers' and Sailors Home. The old blockhouse overlooks the Bay, and is a reproduction of the one in which General Anthony Wayne died.

Another historical site worth visiting is the first land lighthouse on the Great Lakes, which was originally built in 1818.

On Presque Isle State Park itself there are several historic places to visit. One is the Perry Monument, honoring the hero of the Battle of Lake Erie. It stands at the entrance of Misery Bay, just west of the Presque Isle Bay channel.

Another popular landmark is the Presque Isle Light, which was built in 1872, and is still operating. It's located at the midway point, along the outer peninsula shore.

Scenic beauty

When you come to Presque Isle be sure to bring your camera. Whether your boat is a car-topper, a deep-water sailboat, or power yacht, the Erie area has something for everyone. For medium and small trailerable boats and especially canoes and car-toppers, the Presque Isle Lagoons are the place. The lagoons may be entered at the east end from Misery Bay, or at the west end from Presque Isle Marina. Boat ramps are located at both areas. These scenic backwaters are so special that their uniqueness has to be recognized as a national landmark by The National Park Service. The abundant wildlife and beauty of the lagoons makes them a photographer's delight.

Water skiing

Water skiers love Presque Isle for lots of reasons and one is a place called Thompson's Bay, which is in the lake directly north of the north channel pier. Because of Erie's prevailing west winds, this outer bay is usually ideal for skiing and on the majority of the shoreline boat beaching is permitted. The wide, sandy beaches provide excellent boat landing and picnicking. On days of calm winds or advantageous wind directions, Gull Point,

north of Thompson Bay, and the beaches that run several miles west, also make great skiing areas. Beaches that are set aside for swimming only have lifeguard protection, and are plainly marked. Most of the water skiing beaches are unguarded areas.

Sailing waters

Of all the boating enthusiasts, few sing the praises of the Presque Isle area as much as the sailors. During the entire sailing season, boats of every size and description can be seen racing, cruising or daysailing. Midget Ocean Racing (M.O.R.C) auxiliary-powered sailboats 30 feet and less schedule their races over courses in both the bay and lake. On a given day you might see a classic wooden sloop heading out to open water, a yacht club fleet competing around buoys, or a wet-suited boardsailor silhouetted against a golden sunset. The beauty of sail is an art form that seems to flourish in Erie.

The Erie area is truly a great place for recreational activities, both on and off the water. No matter what you like, if it's sailing, water skiing, powerboating, swimming or fishing, few other places in Pennsylvania can match Erie. This year make a point to visit Presque Isle.

Boat Shows:



They're Worth the Price of Admission

by Gary Diamond

The weather's cold, snow is on the ground and you've succumbed to the ravages of winter. Every day you trudge off to work, put in your eight hours and become a stunt driver on the way home as you weave through the thousands of cars on the interstate. By mid-January, a severe case of cabin fever sets in and you're about to crawl up the wall. The symptoms are easily recognized, when your wife relates the fact that you have been talking incoherently for the past week while shoveling snow from the driveway. Other symptoms of cabin fever can be easily identified, such as watching reruns of boat races, bass fishing programs and the America's Cup.

There is, however, a cure for this dreaded disease and the cost usually isn't high.

Boat and outdoor shows are held throughout the winter. They usually begin sometime during the first week in January and continue until mid-March. Most are three-day events beginning on a Friday and closing on a Sunday. Others last a week or more. And believe it or not, the shows can save you money even if you don't spend a plug nickel while you're there.

The big advantage of attending a boat or outdoor show is that you get to see all the new products in one place. This alone makes the entrance fee well worthwhile. This especially holds true with the larger shows where the exhibits consist of fishing, hunting, camping and backpacking.

Boats of every size, style and description are on display.

Those of you who are in the market for new equipment will find that prices are generally lower at the shows and you can make some terrific deals with savings of 15 percent to 40 percent. The reason for this savings is competition. There is always more than one dealer of a specific product and they all are there for just one reason—to make sales.

The vast array of new boats at the shows is staggering. Everything from a 10-foot pram to a 42-foot ocean yacht are on display at many shows, and at prices far below suggested list. This translates to savings that can amount to thousands of dollars for the new-boat buyer. You'll also find a number of financial institutions at some



To get the most from a show, wear comfortable walking shoes, bring a notebook and a pen, and carry a daypack for holding catalogs and brochures.

shows. They're offering lower-than-normal interest and long payback terms.

However, a note of caution—those long-term loans are not for your benefit, because the extended payback period puts a lot of dollars in the coffers of the banks.

A good example of this can be seen on a \$20,000 purchase financed over a 10-year period versus a 20-year payback. The compounded interest over the longer term amounts to an incredible sum of money, yet the monthly payments are not considerably lower than those on a boat financed over a 10-year period.

Star wares

If you're not in the market for a new boat but would like to update your existing craft, the boat and outdoor shows can be highly beneficial. Hundreds of marine supply dealers are displaying their wares—some of which are just what you've been looking for. Marine electronic gadgetry has really come down in price and is now within the financial reach of most boaters. Items such as Loran-C navigational devices, VHF radios, depthfinders and even CBs are now inexpensive items. There are even electronic compasses on the market with a one-degree accuracy.

Just a few years ago, these same items cost hundreds of dollars more. Because the show prices are far lower than suggested list, you can update your existing equipment for considerably less money than you may have expected.

If you don't have all that gadgetry on your boat and are wondering just how it should be installed, take a good look at some of the boats on display that are already rigged. Carefully measure the console on your craft and compare it to the size of some of the new boats on display. The instrumentation on the new boats has been installed by technicians who do this sort of thing for a living and they perform the job every day of the week—not just once or twice a season.

Take careful note of the location of the instruments and their relation to other devices. For example, compasses are affected by other devices such as the Loran-C or depthfinder. The magnet in the speaker of the radio can severely affect the accuracy of a compass if it were mounted too close.

Check also the locations of antennas and other devices that project above the console or gunwale. Although they may appear out of the way while in the upright position, where they are stored when you're trailering or casting is equally important. By carefully examining the layouts of the many boats on display, you'll be able to get some great ideas of how to modify your own boat to make it more roomy and efficient.

New products

Just about the time you think you've seen all the gadgetry for improving your boat, something new pops into the picture.

A few years ago, for instance, someone had a great idea to adjust the trim angle of boats. This crafty inventor designed a device called trim tabs. They attach to the transom of the boat, they are hydraulically operated and they cause the bow of the craft to come down or up simply by pressing a button on the console.

Since then, a new device has been created that fits over the cavitation plate of outboard and inboard/outboard motor lower units. This one looks like the wings on a jet plane and is extremely efficient. Unlike the trim tabs, which cause drag and reduce fuel efficiency, the fin is a planing device that lifts the back end of the boat by adding more surface area under the water.

The lift principle is similar to the wing of an aircraft, but because water is considerably dense, the surface area needed is far less. Your boat will come up on a plane and remain there while using far less throttle, thus saving lots of fuel.

Another gadget I spotted at a recent boat show was something I considered rather ingenious—a lighted pedestal seat. A low-wattage fluorescent light was mounted inside a frosted plexiglass tube that surrounded the pedestal of the boat seat. Although the light was only about 12 watts, it was more than sufficient to illuminate the entire interior of the boat on a dark night.

This would be especially helpful for fishermen who night-fished for largemouth bass or walleye during mid-summer. Because the device was low-powered, it only consumed a fraction of the power from the boat's main battery.

There are lots of good reasons to attend the upcoming boat and outdoor shows. You're not paying a fee to someone to look at their wares, but instead, you'll be getting some good ideas on how to improve your boat and make it more efficient. In addition, you'll be saving thousands of dollars if you're in the market for a new boat or boating accessories simply by waiting until show time to buy.

That's the excuse I've been giving my wife for the past 25 years when I purchase a new boat or motor, or gadget for the boat. I'm never quite sure, however, that she's really convinced about the savings or just feels I'm a lot easier to live with when there's a new boat in the driveway. What's certain is that I haven't had a severe case of cabin fever since I began attending the boat and outdoor shows during the dead of winter.

Buying a Small Sailboat

by Cheryl Kimerline

Investing in a small sailboat will give you many years of enjoyment with the proper care and maintenance. Many different types of new and used boats are available. The safest buys are found at reputable marine dealers, but bargains may be found in the classified ads or in your neighbor's driveway. It is also useful to visit boat shows this winter to compare a variety of brands. Word of mouth and time in the sailing business often determines who has the best sailing prices and service. Sailors should be able to refer you to the best sail shops.

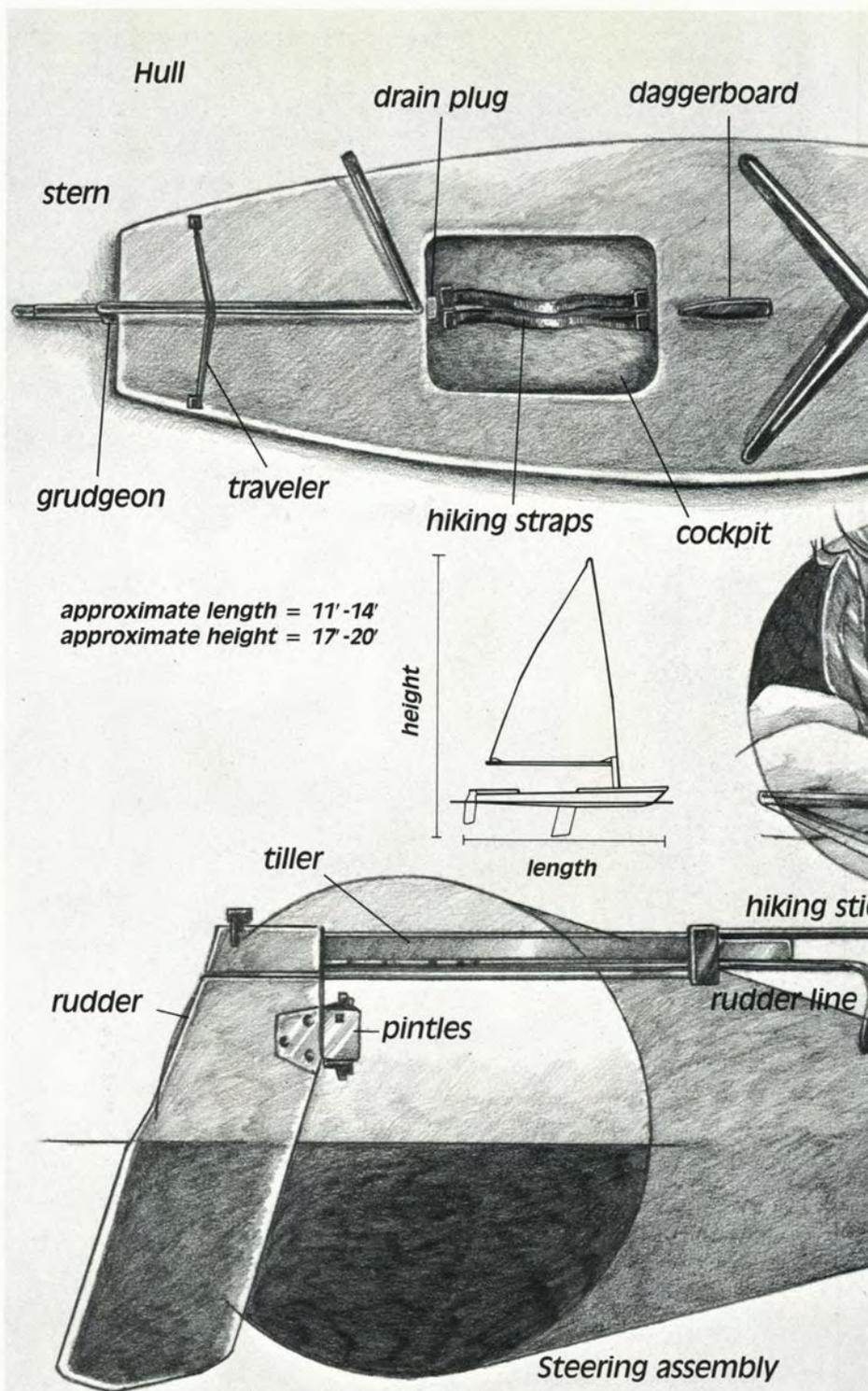
Before buying a small sailboat you should know what to look for, especially if you are considering buying a used boat. An uninformed buyer could easily purchase a boat at a "bargain" price and end up paying a fortune to make the necessary repairs or replace the missing parts. Determine how much money you can afford to spend and what size and type of sailboat you are interested in. You need to decide how many people will be sailing in your boat, how many people are needed to rig and launch it, whether maintenance parts are easily available, and where you are going to sail (inland reservoirs, Lake Erie, Chesapeake Bay, rivers). Also consider where the boat is going to be stored for the winter and summer seasons.

Sailboats have more parts than a powerboat. There is information that you need to know about these parts before you buy a sailboat. For practical purposes, there are three categories: hull, steering assembly and rigging.

Hull

Most small sailboats have a fiberglass hull. Fiberglass takes abuse well and it can be repaired easily.

Check the hull carefully when buying

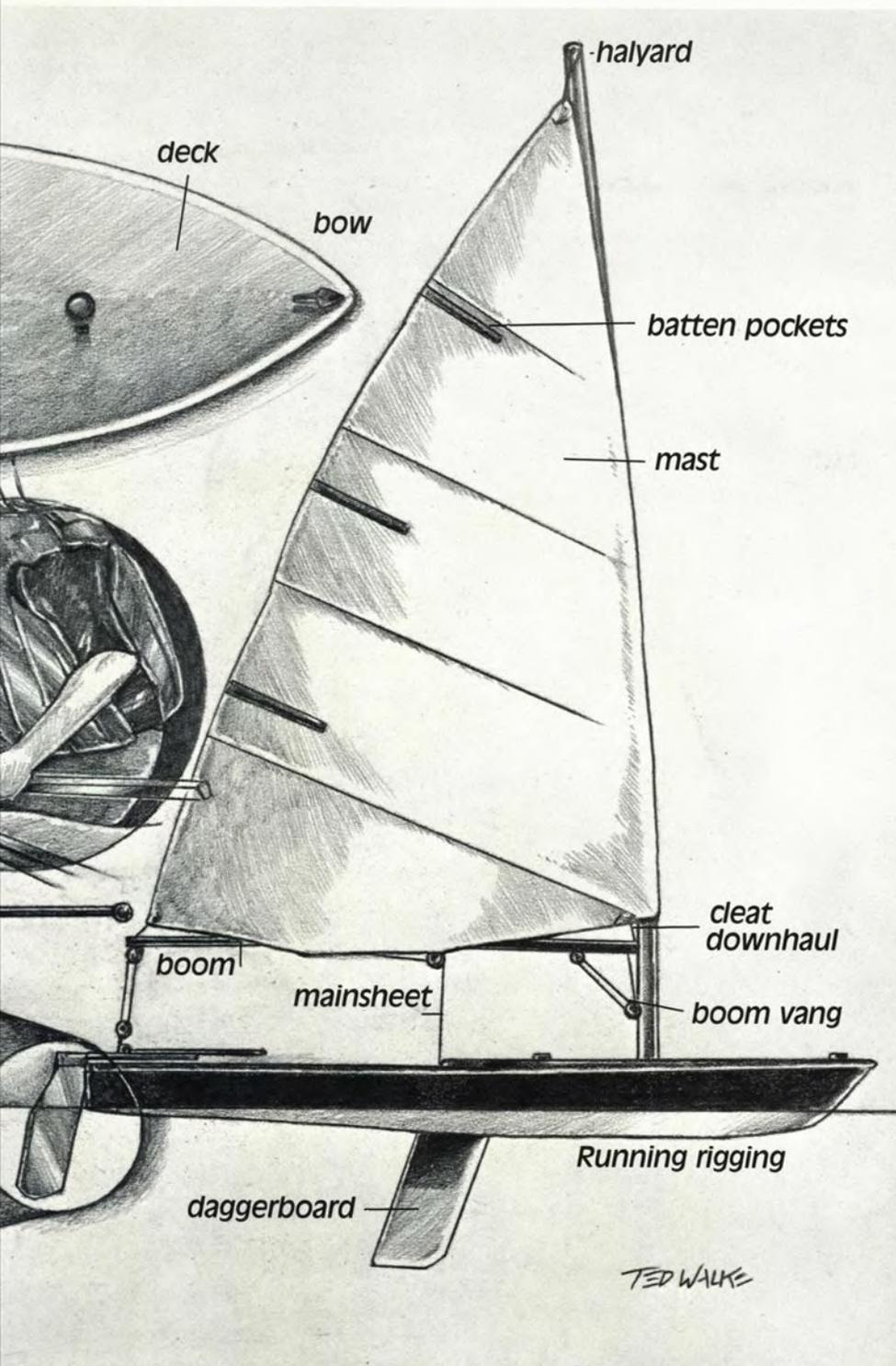


a sailboat. Small scratches, dents and gouges can be easily repaired. Other damage such as stress cracks and holes require more extensive work. Fiberglass repair kits are available at your local dealers.

Check the daggerboard trunk to make sure it is not chipped or damaged. Make sure the daggerboard slides easily in, seals properly and locks down. Raising and

lowering a daggerboard on its pin wears away its protective covering and rust can easily set in.

Hiking straps should be firmly attached in the bottom of the cockpit. These lines or webbing straps allow sailors a place to put their feet so they will not fall out of the boat.



Rigging

The sails need to be inspected carefully. Check the areas where the sail may rub the hull or the rigging. Check the stitching in the seams. It should already be reinforced in these heavy pressure areas. Make sure the sails are not moldy or mildewed. Inspect the batten pockets. Make sure they are not worn. The battens should also be in good condition.

The boom vang is a tackle arrangement connected to the mast at its base and to the boom. The boom vang helps take the "twist" out of the sails, flattens the main-sail and prevents the boom from lifting in case of accidental jibes.

Check all the rigging lines. Make sure they are not frayed or worn. Rigging is primarily stainless steel wire. Galvanized steel is also used. Galvanized steel is cheaper but not as good. Stainless steel is rust resistant not rust proof. Check the wires carefully for rust especially in areas where they have sharp bends. Look for frayed strands of wire. Galvanized rigging needs closer attention because the protective galvanized layer can easily be worn off and expose the metal to rust. The downhaul and halyard need to be carefully checked. The cleats should also be in good condition.

Shackles, turnbuckles and metal fittings should be inspected carefully for rust and wear. Make sure the fastenings are thoroughly bolted into the hull.

Making your final investment

Asking the salesperson some specific questions about sailboat parts will help test the seller. If the salesperson continues to remain friendly and helpful, he probably does not have anything to hide.

Do not buy the first sailboat that catches your eye. Check with several different places and then discuss it with your family or sailing friends. If you don't feel comfortable buying a sailboat, take another sailing friend with you. Remember that if you buy a used sailboat from an individual, it is yours. You can't take it back and there are no service warranties.

Above all, don't be pressured into buying something that you do not want. Don't buy it just because the salesperson said it was the best boat on the market. Thousands of sailboats are put on the market each year. Take your time and make your choicethe right one. 

Cheryl Kimerline is special programs coordinator of the Commission Bureau of Boating.

Steering assembly

When inspecting a rudder, look for signs of stress such as broken welds, splits, cracks and fastenings working loose. Rudders occasionally need to be replaced because of the constant pressure they go through. The rudder is attached to the boat with fittings that allow it to pivot or turn. These fittings are called gudgeons and pintles. The gudgeons are attached to the boat and the pintles are attached to the rudder.

Check the drain plug and make sure it forms a good seal in the cockpit hole. Carry an extra drain plug just in case one is lost.

Check the traveler (lines and blocks at the stern of the boat where the mainsheet is attached). Make sure it is attached correctly and moves freely.

BLUE MARSH LAKE FOR

My 6-year-old son likes to fish. My 3-year-old daughter, a cruiser at heart, likes to motor around the lake, or as she says, "go bumpity-bump." My wife and I like to fish and cruise. That's why Blue Marsh Lake often gets the nod. It's a good spot for both cruising and fishing.

We like to go to Blue Marsh Lake in spring and fall, before Memorial Day and after Labor Day, when there's plenty of room on the lake and boat traffic is thin. We tackle this waterway in a 16-foot runabout with a 65hp outboard or a 12-foot aluminum semivee with a 9.9hp engine.

Two ramps on Blue Marsh Lake are good for launching larger craft. One is the State Hill Boat Launching Area, the other is the Dry Brooks Boat Launching Area. These ramps feature buoyed docks in season, which help when launching and retrieving big boats. The Fish Commission Scheidy Road Access can accommodate smaller boats easily. This ramp also has a dock.

As the water warms, water skiers, boardsailors and personal watercraft operators use the lake more and more. Add fishermen and sailors and Blue Marsh Lake can be downright crowded. For this reason, plan trips there as we do—weekdays during the season, and anytime before Memorial Day and after Labor Day.

Fishing opportunities

Our first trip last season was a shake-down cruise for the family runabout. We launched in April, touring the lake and trying our luck for panfish. We keep the cruising and fishing uncomplicated, which works well with kids. Worms fished from bobbers usually fool sunnies.

My son shares his grandfather's angling enthusiasm, so when I get the two of them together in the boat, we usually come up with a catch worth photographing. A few springs ago, we located a school of crappies in one of the finger-like sections of the lake. We caught and released over 50

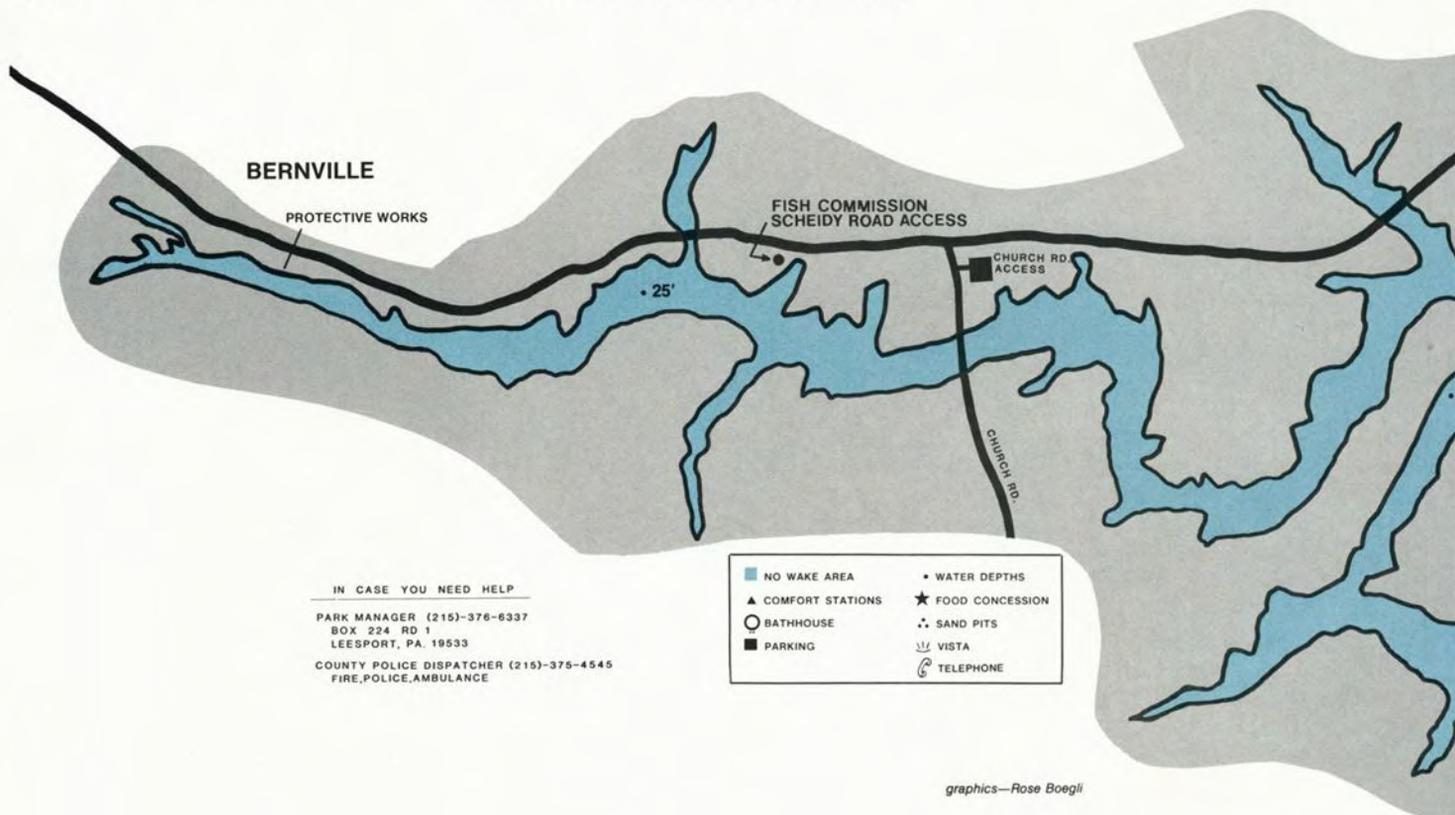
apiece. They averaged about 8 inches in length with every fifth one or so going 9–10 inches.

In addition, we've had good luck bass fishing in Blue Marsh Lake. Last season I nailed a 5-pounder and a few seasons back my father fooled a 4-pounder.

Leisurely cruise

We spend most of our time at Blue Marsh Lake cruising, exploring the Spring Creek arm of the impoundment, opening up the throttle a little in the portion of the lake where that's permitted, or searching some of the quieter portions for new fishing places. We sometimes anchor our boat to watch the water skiers, boardsailors or sailboats.

Spring and fall cruises are especially rewarding because of the uncrowded conditions and because wildlife abounds. We've seen deer, and last fall we watched a heron for a long time. The children were



FAMILY CRUISING

BY ART MICHAELS

particularly impressed with this aviary 747's takeoffs and landings. We picked the right day, too, because the trees were at the peak of their fall colors. Seeing that from a boat was different.

Paddling possibilities

Blue Marsh Lake is also a paddlers dream. Pick a calm weekday during the offseason, and try the Spring Creek arm or the upper end of the lake, beginning near the Commission Sheidy Road Access.

Paddle quietly, bring binoculars and be ready to view all sorts of wildlife.

Getting there

Blue Marsh Lake is located in Berks County, northwest of Reading. To get there from I-78, get off at exit 7 and take Route 183 south. The Fish Commission Sheidy Road Access is about nine miles from I-78 on Route 183.

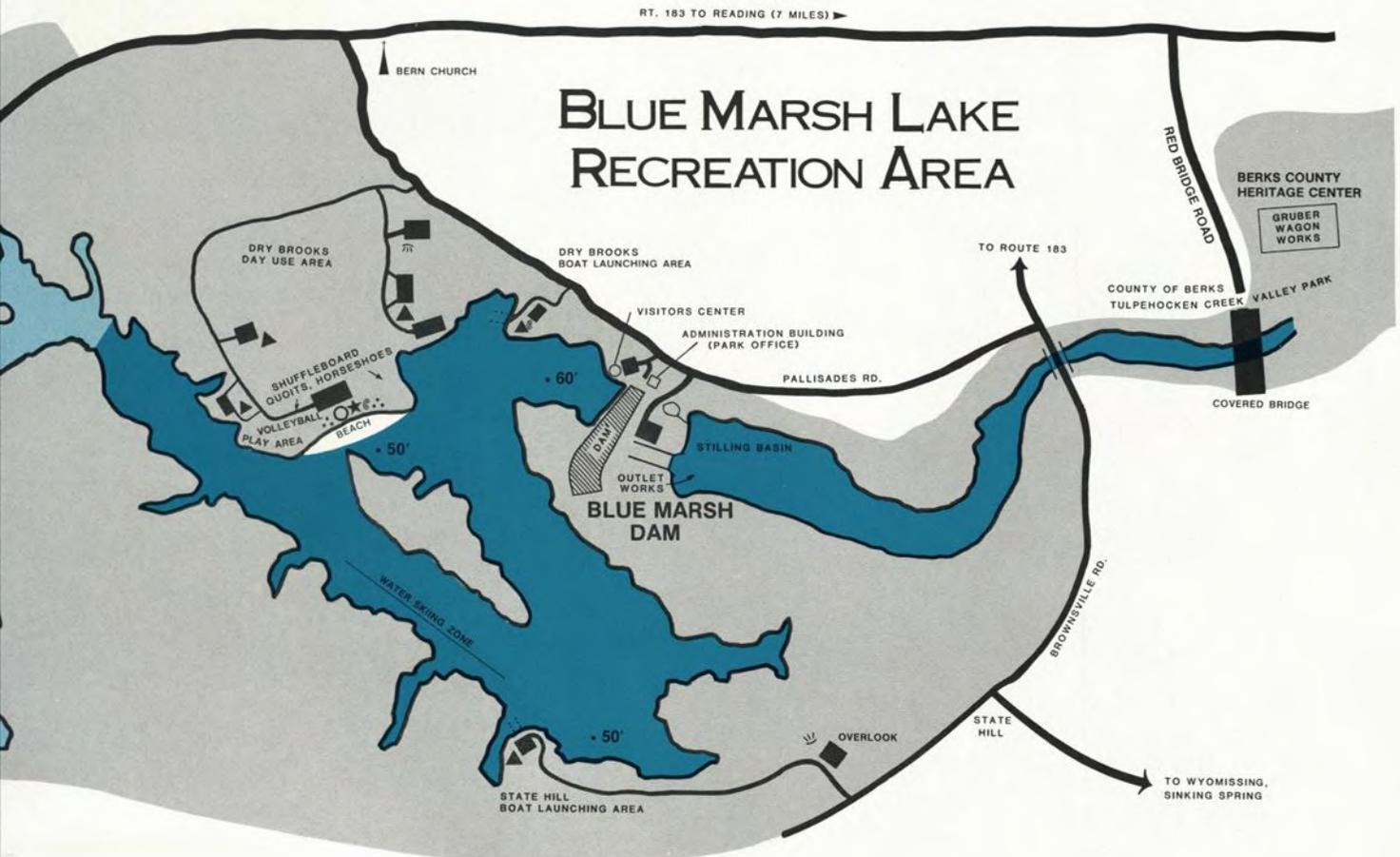
Continue on Route 183 south about three more miles to the Bern Church, at Palisades Road. Turn right onto Palisades Road. The Dry Brooks access is about 1.4 miles farther.

From the Dry Brooks access, continue southeast on Palisades Road another 1.7 miles to Reber's Bridge Road. Turn right, cross the bridge, and continue another 2 miles up the road to the State Hill access.

Before you go to Blue Marsh Lake, whether you challenge the waterway from a runabout or a canoe, get some good maps of the place. One excellent hydrographic (underwater contour) map is published by the International Map Company, 547 Shaler Boulevard, Ridgefield, NJ 07657. The phone number is 201-943-6566. Blue Marsh Lake maps cost \$5.75 including shipping and handling. They should be ordered directly from the company, not the Fish Commission.

Another useful source is the Philadelphia District of the U.S. Army Corps of Engineers, which built Blue Marsh Lake. In the spring of 1988, the Philadelphia District will have available a map (not showing underwater contour) with other useful information on all the area's activities. You can obtain this map, probably in June, from the U.S. Army Corps of Engineers, Blue Marsh Lake Recreation Area, Box 224, RD 1, Leesport, PA 19533. You can also get this publication from the Public Affairs Office, Army Engineers, Philadelphia District, Custom House, 2nd and Chestnut Streets, Philadelphia, PA 19106. The phone number is 215-597-4802.

This season, check out Blue Marsh Lake before the traditional summer season starts. You may learn to like it as much as we do.



Diddling

by Cliff Jacobson

Winter's on the wind. Time to put away your paddling gear and turn your thoughts to the solitude of winter. Small repairs and equipment innovations can wait until the fury of spring.

Don't you believe it! After three months of winter white, you'll be ready for the first trickle of meltwater, even if your gear is not. So better to put things in order now—cash in on the still workable weather, then to be caught off guard and "too busy" when the rivers flow again.

Here's a compendium of light duty chores that will enhance—indeed glorify—your canoeing pleasure.

Knee pads for your canoe

If you occasionally kneel in your canoe, you'll want to install knee pads. You can buy commercial models (usually made of neoprene), but these are less durable than the ones you can make yourself. Best bet is to buy a $\frac{3}{8}$ -inch thick EVA (ethyl-vinyl-acetate) foam sleeping pad from an equipment supply store and cut knee pads from this. EVA is far superior to other foams in abrasion resistance and tear strength: Accept no substitutes.

Cut the trail mat in half and glue the halves together with waterproof contact cement to make a single sheet that is $\frac{3}{4}$ -inch thick. You'll use a pint of adhesive for this operation. Apply two layers of cement to the foam and allow each to dry before you glue the pieces together. This ensures complete adhesion.

Next, cut 12-inch square pads from the glued up sheet. Trim corners with a sharp knife, and then glue the double-thick pads into your canoe.

You now have very durable, comfortable knee pads that will outlast your canoe.

Removable seat pads

If your canoe has aluminum or plastic seats, you'll need seat pads of some sort. Otherwise, they are a luxury. There are commercial seat pads available, but none is as practical as a seat pad you can make yourself. Here's the procedure:

Cut a piece of EVA foam the size of the canoe seat and sew a canvas or Cordura nylon cover for the foam. Sew a pair of inch-wide nylon straps with FASTEX buckles to the pad edges so the unit will clip under the seat. The FASTEX-equipped

straps can be secured very tightly around the canoe seat (the pad won't shift with your body), yet will release instantly, enabling you to use the seat pad around camp or whenever you stop along the river.

Note: Breathable fabric is much more comfortable and skid-proof than the coated stuff. If you can sew a straight stitch you can make a pair of seat pads in less than an hour.

Canoe pockets

Where to put little things like suntan lotion, bug dope and the like is always a problem on canoe trips. Most paddlers simply carry a small day pack, but getting into and out of one is a hassle. Too bad canoes don't come with pockets. But no problem; you can make your own.

Sew up a 12-inch by 17-inch envelope of nylon taffeta. Slide a $\frac{3}{4}$ -inch wide wood slat through a hem along one of the open edges and elasticize the other edge. Ties or Velcro tabs secure the "pocket" to a canoe thwart. I'm indebted to Dragonfly Designs of Geyserville, California, for this ingenious design, which has been dubbed the "Otter Bag."

Here are some other canoe pocket ideas: Verlen Kruger, who in 1971 paddled 7,000 miles from Montreal to the Bering Sea, and who recently completed an epic 28,000-mile solo canoe voyage, installed bicycle baskets in his canoe. Of course, the baskets wouldn't retain things in the event of a capsize, but they did keep items organized and at hand. Verlen attached the plastic baskets to the thwarts and gunwales.

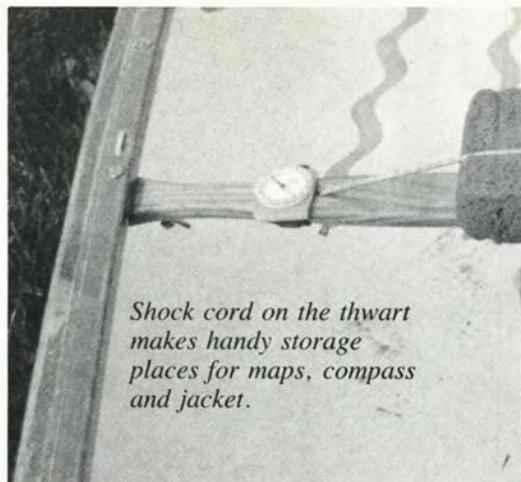
You can also make up several smaller (about 5 inches by 8 inches) pockets and secure them to the inwales (inner gunwales) of your canoe with ties or snaps. A Velcro strip closes these "side pockets" perfectly.

Pad your cartop carriers

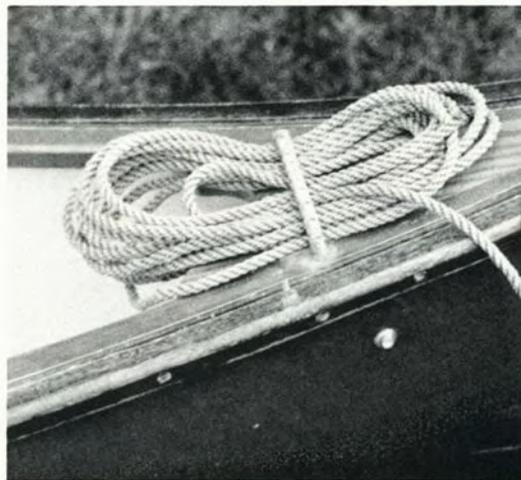
Virtually every canoe I've owned has incurred damage from being ingraciously carried on unpadded cartop carriers. Some paddlers half-heartedly solve the problem by bolting 2x4s to their metal car racks. But even bare wood will gall furniture-quality canoe rails.

Carpeting is the standard remedy. Nail it to wood cross bars, or secure it to metal ones with a tight wrapping of nylon string.

If your crossbars are constructed from the usual inch-wide conduit, the job is easier. Just purchase enough one-inch diameter heater hose to do the job. Lubricate the hose with brake fluid and it'll slide



Shock cord on the thwart makes handy storage places for maps, compass and jacket.



right over the round conduit with scarcely a murmur. Once on, the hose will become a permanent part of the tube's anatomy. No amount of twisting will break it loose.

Foot braces

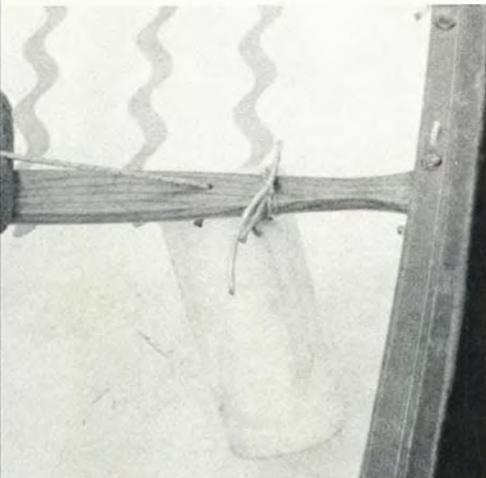
If you have a skinny cruising canoe, you'll want to install foot braces. Some paddlers epoxy a pair of wood rails to the bottom of the canoe, parallel to the keel line, then screw a length of aluminum tube across it. The tube can be adjusted by moving it along the rail length.

Another solution is to pop-rivet aluminum channel to the sidewalls of the canoe, then bolt the footbrace to the channel. Both methods work, but they do tend to clutter the canoe.

An ingenious foot brace, developed by my friend and canoe designer Bob Brown, consists of mounting an aluminum pedal (with non-skid tape on the surface) to a wood thwart that has been conveniently located at foot length. Both pedal and thwart are easily removable.

Holes for painters (end lines)

End lines should be attached as close



Painters (at left) can be stored securely and safely in shock cord on the deck.

to cutwater as possible. This facilitates lining (working the canoe downstream around obstacles in the river, with the aid of ropes) and provides a better attachment point for ropes when tying canoes on cars.

Aluminum canoes often come with shackles installed midway down the



These canoes have holes for endlines. This modification aids lining and makes cartopping easier.

stems—a good idea. But fiberglass and Royalex canoes invariably have holes drilled through the deck plate (an abomination) or just below it, which is only slightly better.

Drill an eighth-inch pilot hole halfway down the stem, about one inch in. Remember, you're drilling through a V-shaped section, so do not hold the drill perpendicular to the sidewall of the canoe.

Next, drill through the hull with a half-inch wide wood bit (metal bits tend to chunk out flakes of gel-coat). Use a rat-tail file to enlarge the hole until it will accept a length of $\frac{3}{8}$ -inch PVC water pipe. Epoxy in the pre-measured length of water pipe, and then flare the edges with a pipe reamer. For a custom touch, paint the edges of the plastic pipe to match the canoe.

Glare

Glare off the bow deck of an aluminum canoe can be tiring, or even dangerous. Wash aluminum decks with strong detergent and then cover them with vinegar. Allow the vinegar to stand until it dries (it will etch the metal slightly). Then paint decks flat black with automotive acrylic.

Running compass

It's a hassle to fumble for a compass when you want to know directions. Better to install a running compass that is instantly visible.

My favorite arrangement is a compass that attaches under the leading edge of the seat and folds out for viewing. To make one, you'll need a small orienteering compass and a light brass hinge. Attach the hinge to the compass base plate and seat edge and the job is complete. The compass is a permanent addition to your canoe.

Another option is to buy a small wrist compass and secure it to the stern thwart. For greater security, remove the standard nylon wrist band and substitute a Velcro strap. Glue a piece of inner tube rubber to the underside of the compass capsule to provide a skid-proof fit on your canoe thwart.

Caution: Be careful that you don't put packs containing saws, axes and other magnetic tools near your running compass.

Shock-cord decks, thwarts

Drill a few wide, spaced holes in your thwarts and decks and thread tight lengths of fabric-covered shock-cord through the holes. Store your coiled painters under the deck loops—they'll be at hand with a simple tug and won't stream out in a capsized

and coil around your legs! Place map, sponge or jacket under a shock-corded thwart. It will stay put in high winds and on portages. If you run a pair of shock-corded loops around the sides (open arms) of the bow seat frame, you'll have a handy place to store another sponge.

Wax your canoe

Occasional waxing with a good automotive paste wax removes road tar and river scum and improves the slipperiness of your canoe hull. A major reason why aluminum canoes fare so badly in white-water is that aluminum clings to rocks. Two coats of paste wax solves the problem admirably, at least for a day or two.

Paddle bags

A really fine paddle deserves protection, and that's why there are commercial "paddle bags" that cost up to \$30. Though I own a number of very fine paddles, I can't rationalize spending money for what amounts to "paddle pajamas." Besides, paddle bags are just one more item that must be accounted for in the fever of a canoe trip.

There are really only two places on a paddle that are vulnerable to damage during the auto ride to the river. These are the blade surface and grip. The paddle shaft usually fares quite well. A half-dozen sheets of folded newspaper with taped or stapled edges provide grand protection for the blade. An old sock, stretched over the grip, prevents galling here.

A quick paddle bag like the one described costs nothing and may surprise you by lasting a full season.

Drill out your yoke pads

If you've capsized this season, there's apt to be some water trapped inside the foam-filled pads of your canoe yoke. No problem: Just drill a few $\frac{3}{8}$ -inch diameter holes through the pad block so they'll drain water. Better yet, replace the factory plywood blocks with varnished ones cut from $\frac{3}{4}$ -inch pine. If you must use plywood (which tends to delaminate), use the pressure-treated stuff, which will never rot.

Factory yoke pad blocks commonly measure $3\frac{1}{2}$ inches by $7\frac{1}{2}$ inches, which is much too small for comfort. I cut mine from $4\frac{1}{2}$ -inch by 8-inch stock, which provides much greater bearing surface.

That's the line up of "honey-do" chores. Hardly drudgery, is it? Attend to these details now and you'll be ready in the spring when the river calls.

KIDS PAGE!

by Steve Ulsh

HYPOTHERMIA (Hi-po-thur-mi-a)

Hypothermia comes from the Greek language; *hypo* means low and *thermia* means heat.

Every year in Pennsylvania hypothermia claims the lives of some people involved in outdoor activities. If you are involved in any of these interests such as fishing and boating, you should be aware of hypothermia and its dangers. Hypothermia might be a new word in your vocabulary, but it is the only term that describes the chilling of the inner body, caused by exposure to cold.

The moment your body begins to lose heat faster than it can produce it, you start to get hypothermia. This causes you to lose body heat and energy. If it continues it can lead to unconsciousness and even death.

The best time to prevent hypothermia is before your body is exposed to cold temperatures. Your first line of defense is to stay dry. When clothes get wet, they lose almost all their ability to keep you warm.

Be aware of wind. A slight breeze carries heat away from bare skin faster than still air. Wind refrigerates wet clothes by evaporating moisture from the surface of the body as well as clothing.

Understand what cold temperatures can do. Most cases of hypothermia develop in air temperatures between 30 and 50 degrees. Many outdoor people don't believe these temperatures are dangerous. They do not consider the dangers of being wet when the thermometer ranges between these degree levels.

Avoid any chances of getting wet. Put on rain gear if it is raining. Never go boating in winter, spring or fall without it.

Do not ignore shivering. Uncontrolled shivering is a warning that hypothermia can follow.

Cold water boating can be different, exciting and fun if you know the dangers of hypothermia and take steps to prevent it.

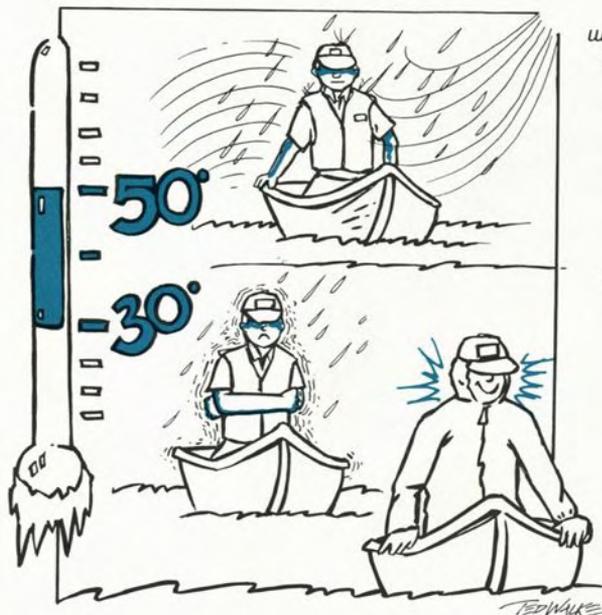
BOATING WORDS

A boating term is hidden in each sentence. See if you can find them.

Example: "Get off my ranch or I'll have you arrested," ordered the cowboy.

Answer: Anchor

1. John said, "We are going to art class in twenty minutes."
2. "I'll take eleven marbles from the box!" exclaimed John.
3. The mighty magician Merlin enticed the knights to follow him.
4. The rainbow appeared on the horizon.
5. The science teacher said, "The name for this bird is tern."
6. The seaport was alive with activity.
7. "I am as tired as you," sighed Jane.
8. "Let's skip rope together," urged Sally.
9. "John's ailing," said the doctor.
10. Get ransom for the child if you can.



Answers
1. oar
2. keel
3. line
4. bow
5. stern
6. port
7. mast
8. prop
9. sailing
10. tansom



Regulation Roundup

by Dennis T. Guise

The Fish Commission is considering several new boating regulations to take effect in 1988. All these proposed regulations have been reviewed by the Boating Advisory Board, which has recommended approval. The proposed regulations have been published in *Pennsylvania Bulletin*, and the Fish Commission solicited public comment before final action.

The Commission is proposing to clarify its regulations on the state of principal boating use. Under current regulations, a boat must be registered in its state of principal use. The proposal creates a rebuttable presumption that Pennsylvania is the state of principal use of any boat moored here for more than 60 days. The Commission is also proposing to require that an issuing agent for temporary boat registrations must issue at least 25 temporary boat registrations a year, instead of 15 as provided by current regulations.

The Fish Commission, acting on the advice of its Boating Advisory Board, is also proposing some new regulations on operation of boats. These proposed changes include:

- A proposal to permit jet boats to operate (at slow minimum-height-swell speed) on streams less than 200 feet in width.
- A proposal to reduce the maximum allowable noise levels from boats from the current 86 decibels at 50 or more feet from the boat to 84 decibels in 1988 and 82 decibels in 1990.
- A proposal to clarify the restrictions on standing on a small boat and riding on the bow decking, gunwales, seatbacks and motorcovers.
- A proposed requirement that operators of personal watercraft (jet skis, jet bikes, etc.) wear Coast Guard-approved personal flotation devices (PFDs) while operating their boats.
- A proposal to update and clarify the regulations on the use of diver-down buoys and flags.

The Commission has also proposed two changes to its special boating reg-

ulations: Establishment of a slow, no-wake boating speed zone on the Susquehanna River near Swimmers Island (Lycoming County) and restricting boating on East Lake (Susquehanna County) to boats powered by electric motors and unpowered boats.

Finally, the Commission has proposed to update and clarify its regulations on capacity plates. The major proposed change in these regulations is a requirement that, effective January 1, 1990, any boat operated on Pennsylvania waters must display a legible capacity plate. This change is not expected to have any great impact because all boats manufactured, sold, offered for sale or transferred since January 1, 1969, are already required to display a capacity plate.

If you have questions or comments about these or other Fish Commission boating regulations, write: Boating Regulations, % Executive Director, Pennsylvania Fish Commission, P.O. Box 1673, Harrisburg, PA 17105-1673.

Dennis T. Guise is the Fish Commission chief counsel.

Florida Rescue Unit Adopts Commission Program

Two members of the Florida Tactical Underwater Team attended a Fish Commission Water Rescue Instructor Course last October. When they returned home, they developed and submitted to the Florida Department of Law Enforcement a course outline using the information and material they obtained in the Fish Commission program. The outline was approved by the Florida Division of Criminal Justice Standards and Training Commission for Florida law enforcement mandatory retraining. It was also approved for local law enforcement training with the use of Florida's public funds. The water rescue program is currently the only one of its kind approved in Florida.

The course, modeled on the Pennsylvania Fish Commission program, was also provided to public safety personnel in Mississippi, Oklahoma, and Indiana, where approval for use is also expected.

U.S. Coast Guard Boating Safety Defect Notification Program

If you believe that a safety defect exists in a boat you bought or in designated associated equipment, you should take specific steps.

The law requires the manufacturer to correct: (1) defects which create a substantial risk of personal injury and (2) failures to comply with Coast Guard Safety Regulations for boats and designated associated equipment. The Coast Guard defines "designated associated equipment" for defect notification purposes as: inboard engines, outboard engines, and sterndrive units.

There are certain time limits on the defect notification and correction requirements. The law does not apply to boats or designated associated equipment manufactured before the effective date of the law (August 10, 1971).

The law is enforced by the Coast Guard Office of Boating, Public, and Consumer Affairs at Coast Guard Head-

quarters, Washington, D.C. 20593. Investigations of alleged or possible safety defects may be carried out by the Boating Safety divisions in the various Coast Guard districts (field offices).

You can also call the Coast Guard at 202-472-2384 and find out if a boat or designated associated equipment has been or is currently involved in a defect notification campaign. The Coast Guard can give instructions on how to contact manufacturers to determine if the defect has been corrected.

Another source of help is a guidebook called *Consumer Resource Handbook*, published by the U.S. Office of Consumer Affairs. It lists many aids to the consumer in resolving product and warranty complaints. Single copies are available free by writing to: Handbook, Consumer Information Center, Pueblo, Colorado 81009.

For further information on consumer issues, or to express your comments and views, contact: U.S. Coast Guard, Special Assistant Consumer Affairs Officer, Washington, D.C. 20593. The phone number is 202-472-2384.



Stephen B. Ulsh Honored

Stephen B. Ulsh, Fish Commission education specialist, has received the Outstanding Contribution to the Field of Environmental Education Award presented by the Pennsylvania Alliance for Environmental Education. Ulsh was honored during the Alliance's annual conference held last November 13-15 at Delaware Valley Middle School, Milford, PA. The award recognizes "a person, private enterprise or public domain displaying exemplary environmental action, contributions or stance."

During 20 years of service to the Fish Commission Ulsh has presented more than 1,000 education programs to schools, churches, sportsmen's clubs and other groups. He started and managed the Commission Center City Cane Pole Program in 1968, which allowed over 150,000 children to fish. He has written numerous magazine articles and writes "Kid's Page" in *Pennsylvania Angler* and *Boat Pennsylvania* magazines. Ulsh has served on government councils, has conducted teacher workshops, developed the PFC's Conservation Award Program and has worked with both the Envir-Olympics and Special Olympics programs. Every year "Mr. Steve," as he is known to children, takes at least two kids fishing who have never fished before. He also coordinates the Commission's PLAY Program and writes the *PLAY Newsletter*.

New Publication

Boating Fun! is the name of a new 14-page boating and water safety activity book available for young boaters. It's full of coloring pages, word scrambles, matching games and word searches designed to entertain and educate youngsters about the fun of boating. Single copies are available free from: Boating, Pennsylvania Fish Commission, P.O. Box 1673, Harrisburg, PA 17105-1673. Teachers and other educators interested in obtaining multiple copies should contact Cheryl Kimerline, special programs coordinator, at the address above.



Steve Ulsh, Pennsylvania Alliance for Environmental Education award winner, with his wife, Molly.

Big Trees of Pennsylvania

The Pennsylvania Forestry Association is pleased to announce the release of *Big Trees of Pennsylvania*, United States Constitution Bicentennial Edition 1787-1987.

Big Trees of Pennsylvania, which is updated every five years, lists the locations of the largest trees of their species in Pennsylvania.

The book describes each tree, and in some cases shows a current photograph of the largest of its species. Everything you need to know to join in the search for Pennsylvania's largest trees is included. Compare what you have found that you might think is the current or new record and you might just be the nominator or even the owner of the largest of the species.

If you nominate a tree and it qualifies as a state champion or co-champion, you will receive a certificate from the Pennsylvania Forestry Association through the Big Trees Committee chairman.

The 1987 edition of *Big Trees of Pennsylvania* is available only through the Pennsylvania Forestry Association, 410 East Main Street, Mechanicsburg, PA 17055. The price is \$4 each including postage and handling.

Correspondence Tip

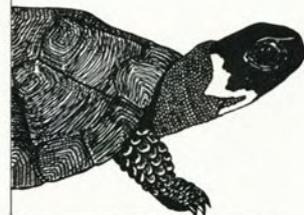
If you ordered subscriptions, publications and other items from the Fish Commission, and if you need to correspond with the Fish Commission about your order, be sure to include in your letter the 7-digit number on the back of your cancelled check. This number appears directly below the stamp, "Pay to the order of the state treasurer."

"SUPPORT SOMETHING WILD"

Help Protect the **Bog Turtle**.
Donate on Line 10C or 19C of the State income tax form to the Wild Resource Conservation Fund, Pa's Tax Checkoff.

Write for information:

Wild Resource Conservation Fund
P.O. Box 1467
Room A1-85, 3rd & Rely Streets
Harrisburg, PA 17120





CURRENTS

New "River Canoeing" Poster Available

The Fish Commission has available a new 22-inch by 34-inch full-color handsomely illustrated poster that addresses the basics of river canoeing. Developed by Dr. Robert Kauffman, professor of recreation and a member of the board of directors of the American Canoe Association, and Virgil Chambers, chief of Boating Safety Education for the Pennsylvania Fish Commission, the poster gives the reader the essentials on "River Canoeing." The poster is illustrated by Ted Walke, Commission graphic artist.

The poster is packed with important information every river paddler should know. Topics include self-rescue, equipment recommendations, proper attire (both for cold- and warm-weather boating), basics in running a shuttle, and guidelines in planning a float trip.

That bare wall in a den, study, shop or even bedroom can become a vivid pictorial textbook. It announces to all who enter that "river canoeing" is a sport of interest and challenge.

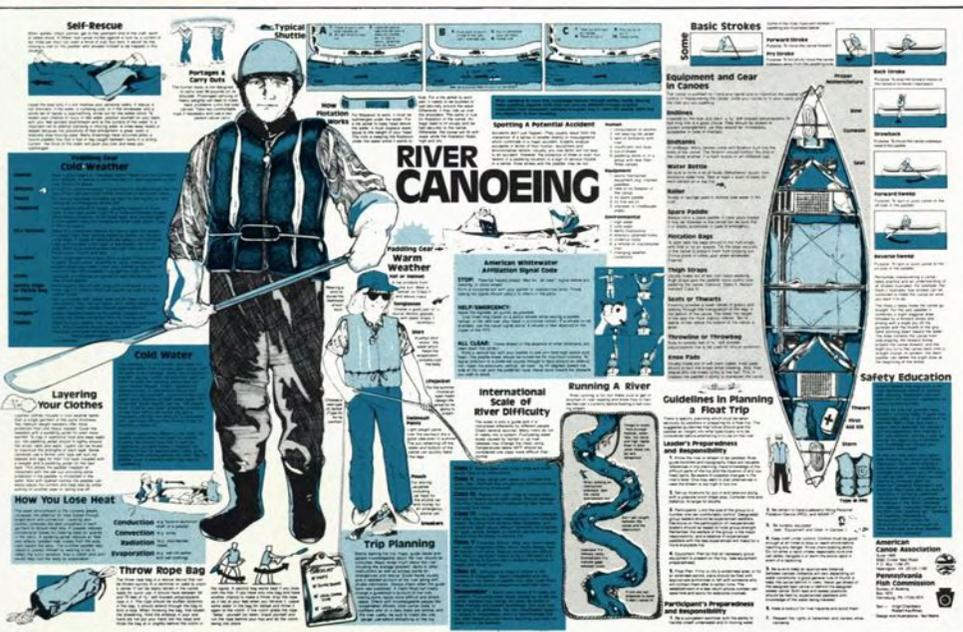
This educational poster is available for \$3.50 postpaid from the Pennsylvania Fish Commission, P.O. Box 1673, Harrisburg, PA 17105-1673, or the American Canoe Association, 8580 Cinder Bed Road, P.O. Box 1190 (P), Newington, VA 22122-1190.

Boat Pennsylvania Volumes Available

Bound copies of *Boat Pennsylvania* Volumes 3-4 (January 1986 through Fall 1987) are available. They contain the 11 issues in the magazine's third and fourth volume years. They're hardbound in blue with gold-colored inscription.

These volumes are offered on a first-come, first-served basis. Each is available postpaid for \$14 for current paid subscribers and \$18 for non-subscribers. Include your account number with your order. This number appears directly above your name on the magazine mailing label.

Make checks payable to *Pennsylvania Fish Commission*, and send orders to: *Boat PA Circulation*, Pennsylvania Fish Commission, P.O. Box 1673, Harrisburg, PA 17105-1673.



River canoeing poster

Conserve 88

CONSERVE 88 is the tenth in a series of award-winning calendars, published by the Western Pennsylvania Conservancy, the state's largest private land conservation organization.

The 1988 calendar features the watercolor works of Andrey Avinoff, a Russian-born artist and scientist who was director of the Carnegie Museum from 1926 to 1945.



The calendar can be ordered for \$6 each plus 6 percent sales tax from: Western Pennsylvania Conservancy, 316 Fourth Avenue, Pittsburgh, PA 15222.

1987 Boat Registration Totals

In 1987, 250,586 boats were registered in Pennsylvania, an increase of 9.4 percent over the 1986 total. The highest number of boats was registered in Allegheny County, with 26,977. The county second with the largest number of registered boats was Bucks, with 10,665. Luzerne County was fourth with 9,542 registered boats. In fifth position was Westmoreland County, with 8,679.

The number of boats registered in Pennsylvania has increased every year since 1978, when 167,528 boats were registered. The 1987 total is a 67 percent increase over the 1978 number.

Sailing Instruction

The Sailing Industry Association has a toll-free number that you can call to find the nearest sailing instruction. The service lets you specify the kind of sailing you want to learn—boardsailing, basic sailing, advanced sailing or blue-water sport. The toll-free phone number is 1-800-447-4700.



Adopt-a-Stream Invites Inquiries

Public access areas are important to the boaters of Pennsylvania. Take a look around the next time you visit one. Is the area in good condition or do you see litter, vandalism and signs of wear and tear? Unfortunately, like many of our lakes and streams, these areas are often in less desirable shape than we'd like them to be.

All hope is not lost. Through the Commission's Adopt-a-Stream program, your organization can become the "parent" of a favorite access area. The Commission will give your club guidance and will recognize it for its efforts. Work projects can include organized cleanup, repair work, fund-raising to repair or expand existing accesses or the purchasing or donation of land for new ones. Use your imagination and join over 100 other organizations that have adopted a waterway in Pennsylvania and are working to protect, conserve and enhance our aquatic resources.

For more information on this program write to: Adopt-a-Stream program, Pennsylvania Fish Commission, 450 Robinson Lane, Bellefonte, PA 16823, or call 814-359-5185.

Water Quality

Water quality affects everyone, not just fishermen or boaters. The best way to solve the problem is to start in your home and backyard. There are several organizations that have a variety of literature available regarding water pollution, water conservation, septic systems, boat care and detergents (phosphorus). For more information contact:

- The Chesapeake Bay Foundation, 412 North Second Street, Harrisburg, PA 17101. Phone: 717-234-5550.
- Chesapeake Bay Trust, 60 West Street, Suite 200A, Annapolis, MD 21401. Phone: 301-269-2941.
- Citizens Program for the Chesapeake Bay, 1205 S. 28th Street, Harrisburg, PA 17111. Phone: 717-561-1740.

Mandatory Education, Operator Licensing Favored

BOAT/U.S. members overwhelmingly favor both mandatory education and operator licensing for recreational boat operators, according to a survey recently conducted by the Association. The results of the survey indicate that by a margin of four to one, or 81 percent, those responding believe that recreational boat owners should take a safe boating course or at least those who already have on-the-water experience should be required to pass an exam substitute.

By a similarly lopsided margin of three to one, the survey reveals that 67 percent of those responding favor some form of operator licensing for boaters. This would include taking a boating safety course or completing an exam substitute. The major difference between education and licensing is that under a licensing system, the state would have the means to take away a person's right to operate a boat.

In a measure of the depth of opinion on these issues, the survey results show that by margins of 66 percent to 69 percent, those responding believe that mandatory education and operator licensing should be implemented without delay, rather than phased in by age.

Furthermore, a comprehensive computer analysis of the survey results indicates that there is remarkable convergence of opinion among those responding from across all sections of the country, owning all sizes and types of boats. Differences of opinion between sailors and powerboaters, between those boating on the oceans or on the inland lakes and rivers and between those who own boats less than 20 feet or larger than 40 feet are minimal or statistically insignificant.

The results of the survey are based on over 15,000 replies. It was mailed to all Association members in the September issue of its bimonthly news journal *BOAT/U.S. Reports*.

Boat Owners Association of The United States is the largest organization of boat owners in the country. For more information on the survey or information on membership, write BOAT/U.S., Public Affairs, 880 S. Pickett Street, Alexandria, VA 22304.

Dedicated to the sound conservation of our aquatic resources, the protection and management of the state's diversified fisheries, and to the ideals of safe boating and optimum boating opportunities.

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A Life Preserver in Your Trunk

by Sue Gerard



You're getting tackle out of the trunk of your car when a woman screams, "Help! Somebody do something! That man's drowning!"

It seems ages before you can get the spare wheel out. You throw things out of the trunk, get the wrench, take off the nut, and lift out the heavy wheel. You roll it and run, guiding it to the water's edge and on into the water. You swim and push the spare wheel out toward the troubled swimmer.

"Hang in there," you call as you come closer. Finally, you push the wheel toward him. He grabs it and almost collapses as he gasps for breath. You grab his arm and hold him so he won't let go of the tire. No need to hurry. Let him rest. Tell him he's O.K. In a few minutes he's getting stronger.

A human being who surely would have died is alive because you knew how to use the "life preserver" that's in the trunk of your car. It's as simple as that. You

were protected by keeping the tire between you and the victim, and with the tire's great buoyancy you were supported. You simply pushed a spare tire and wheel through the water. And you saved a life!

Within the next year hundreds of persons will drown in situations such as the one above. More than 7,000 people will die from suffocation under water this year. Maybe you'll be able to save someone—maybe someone precious to you? Why is the spare wheel such a great life preserver?

• Almost every car has an *aired-up* spare tire (It's the air that makes the thing float), and there's often a car near the scene of a near-drowning.

• Even poor swimmers can push the wheel out to someone in trouble.

• The rescuer is in no danger; the victim grabs the wheel if he is conscious.

• An unconscious victim can be pulled to the wheel, rolled to his back and be given mouth-to-mouth breathing by the rescuer

(who hooks his elbow over the wheel for support).

• Several persons can be rescued at one time (as in boating accidents) because the wheel floats well enough to support all who hold on to it.

Wherever you swim or boat—river, pond, or lake—the life preserver in the trunk of your car is ready, unless it's flat.

If you've never seen a heavy spare wheel float you'll be surprised. Try it. You'll have great fun playing with it in the water. An average person can't push it to the bottom in a chest-deep stream. But beware—if you're able to push it down under the water, don't release it suddenly because it might bound up fast and bang you on the head.

Practice imaginary rescues. In pretending, *do not use the word "help."* It's reserved for real emergencies.



Practice these rescues

For a tired swimmer: Swim out with the wheel, extend it to the swimmer, staying behind the wheel so that he can't grab you. Try various ways to swim while pulling the wheel and its passenger.

For an exhausted swimmer: For the victim who is breathing but too weak to hold on, cross his arms and hold his wrists on the wheel as you both rest. Reassure him and signal for a boat to pick you up. If you must swim in, keep holding him as you swim to safety using only one arm and your legs. Rest when you're tired and then proceed.

For an unconscious person: If he's breathing, hold his wrists and swim as above.

If the person is not breathing: Support yourself by holding one elbow over the wheel, roll the person to his back with his head stretched back over the tire as his body hangs vertically in the water.

Tilt, pull and blow. Hold his nostrils

shut with the fingers of the arm that's hanging on to the wheel. *Tilt* his head far back; put the thumb of your free hand in his mouth in order to *pull* the lower jaw forward (to open his breathing passage). Now cover his entire mouth (and your thumb) with your mouth and *blow* (as if inflating a balloon). As you blow, watch for his chest to rise; take your mouth away so the air can come out; blow again as before. Continue blowing 12 times a minute until he's breathing on his own. (Contact your local chapter of the American Red Cross for more detailed information on artificial respiration.)

If you're a non-swimmer: Practice wading out with the wheel and carefully shoving it to the tired or exhausted victim. That gives you time to get additional help, if necessary. A few encouraging words and a little rest may then allow the victim to rescue himself.

Pass the word to fellow boaters—and

to anyone who'll listen—that the spare wheel floats. And having experienced how the thing acts in the water, you'll not panic if you hear someone scream "Help! That man's drowning."



TED WALKER



A Rite of Passage on the River

by Bruce Kistler

“Bruce!”

From inside the cabin I could hear Big Al calling me, but I didn't answer. I knew what he was up to—he wanted to teach me how to water ski.

“Bruce, we're getting ready to go skiing. Come on.”

Wanting no part of it, I clambered up the ladder into the loft to hide. Through the loft windows I looked out over the broad Susquehanna River. The boat was

at the dock and Chip and Donny were gathering ropes and skies. My father was taking a swim. Then I saw Big Al disappear around the corner of the cabin—looking for me. I held my breath and waited. On the other side of the river, a freight train rumbled and clattered northward. Cicadas whirred in the sultry afternoon.

Although he was a good buddy, Big Al could also intimidate a shy eight-year-old. He ran what could best be described as an informal boy's club at this tiny cabin on

the Conowingo pool of the river. Chip, from Lancaster, and Donny, from York, were his two regular kids. He called them the river rats. I was the newcomer. Dad had met Big Al at work and we had made the trip to the river from our home in Delaware County almost every weekend that summer.

Secretly I wanted to learn how to ski. In fact, I wanted to be able to do everything Chip and Donny could do. I envied them because they could handle powerboats, shoot rifles, swim like fish, and



I tottered and wobbled but kept my balance. I stayed up the whole way. Then I realized I was skiing!

all day long in my orange kapok life preserver. That is, until one of the "farm boys" who came down to the cabin to swim occasionally finally coaxed me out of it. He had me paddle around with my feet hooked over an old inner tube, and that's how I learned to swim.

Recently I had been making myself scarce whenever the others started talking about water skiing. That's why I was cowering in the loft. Just then something made me uneasy and I glanced down. There, grinning up the ladder at me, was Big Al. I was cornered. I pretended that I had been playing in the loft and hadn't heard him calling. I don't know if he believed me or not but I reluctantly climbed down and sheepishly followed him out to the dock.

I gathered my courage, determined not to let the other boys know that I was afraid. Dad strapped a yellow foam ski belt on me and helped me adjust the ski binders. An added indignity to all this was that the only skis small enough for me were Chip's personal skis, the gleaming red and white ones. Chip always made a pompous show of ownership before grudgingly letting anyone else use them.

With Donny, Chip and Dad looking on, I got in the water and struggled to put on the skis. Big Al cranked up the 35-horse Evinrude on the "Mary B," a 16-foot blue wooden runabout with tail fins.

"Remember now, keep your arms straight and your knees bent," Big Al instructed as he slipped the motor into gear to take up the slack. When the handle came up, I could feel the eyes of the world on me. The smell of the outboard exhaust made me a little nauseous.

I fought to stay in the starting position and to keep the skis pointed straight ahead, but I was all over the place. How are you supposed to stay upright? You can't kick with those darn boards on your feet and can't tread water with your arms because you have to hold onto the handle. Can't we shoot tin cans with the .22 today instead of water skiing? I could tell Big Al was growing impatient waiting for me. Finally I got settled and yelled "Hit it!" The boat took off like a spooked horse.

I started to come out of the water and for a moment thought I was going to make it. But then for some reason I pulled on the rope. The skis shot out in front of me and I fell flat on my back.

"Don't pull on the rope!" Chip yelled, taking the opportunity to show his superiority.

The next time I forced myself to keep my arms out straight and again I thought I had it, but I plopped over to one side and swallowed a pint of tepid Susquehanna River water. Sputtering and gasping for air, I could hear the giggles of the boys on the dock. They were having great fun at my expense.

"Don't give up so easily!" Donny chided in mock exasperation.

I was tired of being the laughing stock and Donny's comment made me mad. I'll show 'em, I thought. Next time I'm gonna hang onto that handle no matter what happens.

Anger had overcome reason and I paid the price for it. On the third try, my skis split apart and I dived headlong between them, but I stubbornly refused to let go. My eyelids were peeled back and my mouth was forced into a grotesque grin as I darted through the water. At last I released the handle and surfaced to the sound of hysterical laughter. Everyone, including my father, was doubled over. "You looked just like a torpedo!" he chuckled.

Although my bathing suit had been pulled a bit south of its proper location, playing submarine had helped me to relax and forget about my rivals. In fact, I was laughing, too.

Big Al came around with the rope again and said gently, "Make it this time. You can do it."

"Okay, Al. Hit it!"

The boat went a little slower this time. I tottered and wobbled but kept my balance. I was unsteady as a newborn calf taking its first steps, but I held on and stared in fascination at the boat's wake and bubble trail. Big Al made a short loop out in the river and, luckily, I stayed up the whole way. Then I realized that I was skiing!

I returned to the dock triumphant. Dad was clapping and even Donny and Chip were cheering.

Learning how to water ski boosted my confidence. It was an initiation. Thereafter I was one of the river rats. I became close friends with Donny and Chip and water skiing became my favorite sport.

most of all—they could water ski. Skiing was the main summer activity at the cabin and a good deal of social status derived from one's skiing ability. Chip had the edge on Donny in this regard but both of them were in awe of older skiers like John D. who could jump over the ski jump at Whistler's Beach, kick up an amazing wall of spray on a slalom ski, and even ski on a canoe paddle.

I had tried to ski once or twice without success. I didn't enjoy the failure that reinforced my position at the bottom of the totem pole. Besides, I had just learned how to swim and I hadn't exactly developed a love for the water. I had been a reluctant swimmer, too, content to float



The New Get-Wet Sport

by Virgil Chambers

There's a new and exciting way to have fun on the water. Although several types of "water scooters" have been around, they now appear regularly. "Personal watercraft," as they have been officially named, even have an organized manufacturers association, the Personal Watercraft Industry Association (PWIA). The PWIA is affiliated with the National Marine Manufacturers Association (NMMA). PWIA members are leading manufacturers of personal watercraft and are making a big wave in the pool of recreational boating. Currently more than 1,600 personal watercraft are registered in Pennsylvania, and this number is increasing.

Personal watercraft are still boats and their operation is governed by the laws and regulations that apply to all recreational watercraft. When you operate a personal watercraft, you are operating a powerboat and you need a basic understanding of boating safety. Rules of the road, equipment requirements (PFD and fire extinguisher), along with courtesy afloat, are all on the list of things to know when operating these minijet-driven craft.

Although there may be some exemptions by the U.S. Coast Guard of certain standards on this type of watercraft, safety has not been compromised.



Closer look

Exactly what are "personal watercraft"? They are powerboats, but to be more specific, a personal watercraft is a Class A inboard, powered by an internal combustion engine that drives a water jet pump as its source of propulsion.

How does a jet pump work? Water is drawn into the unit and is forced at high pressure through a nozzle(s) at the stern of the craft. This water "jet stream" shoots out of the nozzle(s) and creates a force that drives the personal watercraft forward. These craft do not have, nor do they really need, reverse power, primarily because of their maneuverability and small size. As with all watercraft, different models have different handling characteristics.

A safety advantage of these "jet stream" engines is the absence of a whirling propeller. The frightening thought of getting too close to the prop-driven craft while in the water, or near others in the water, simply is not a matter of concern. This is fortunate because many first-time "riders" find themselves in the water more frequently than on the craft.

PFDs

This idea, in turn, shows the importance of wearing a personal flotation device (PFD or life jacket) while operating the craft. Presently the law states that boats

must carry a Coast Guard approved PFD. Where is it carried on the limited space of a water vehicle? On your person.

Personal watercraft for recreational purposes were made with the use of personal flotation devices in mind. Between falling off and the fatigue of just being out on the water, your PFD will prove to be a real lifesaver. Although the personal watercraft manufacturers have built in safety with automatic shut-off switches or a circling feature (the craft will slowly circle the area in a small pattern near where you fell off), you will still find yourself swimming after the craft when you fall off. Once you fall off and reboard several times, a comfortably fitted PFD makes for a more enjoyable outing.

Present records indicate that a large percentage of the people buying personal watercraft are not traditional boaters. However, traditional boaters are the most affected by this new wave and see the increase of these personal watercraft on the open water.

Sharing is the key

This new twist in recreational boating could increase the number of boating mishaps. The key to success in this area of recreational boating is harmonious sharing of the waterways. This can most easily occur by boaters trying to understand and

appreciate each other's form of recreational enjoyment. We will most likely always have conflict as we do now between sailors and skiers, canoeists and powerboaters, boating anglers and cruisers, or any different combination of water sportsmen. But that conflict is controlled by a certain amount of understanding and appreciation for the other guy.

The users of personal watercraft should be no different. Courtesy, operational safety, and common sense are traits that keep any group of users alive and well. Operational safety, in particular, is a responsibility of all boaters.

Regardless of the type of watercraft, the operator determines the attitude of how that craft is perceived—safe or dangerous. If you haven't operated or ridden on a personal watercraft, don't prejudge this new kid on the dock. Check it out. If you're an owner or renter of one of the sporty new water scooters, take heed—you can be a welcome addition to our waterways if you follow the rules and respect the rights of others.

Happy Boating!



Virgil Chambers is chief of the Commission Boating Safety Education Section.

Basic Water Ski Gear



by John M. Cornish II

What size boat and motor should you buy? Which skis are best for you? Is any ski rope ok to use? What equipment do you need to begin water skiing? These are several questions that beginning boaters or water skiers ask as they embark on this new adventure.

Here are some answers to many of the questions that may arise about purchasing water skiing equipment.

An important point to keep in mind is that neither the most expensive items nor the least expensive items are the best value. Consider the quality of the equipment and longevity of its use. The ability to last also depends on the care, maintenance and manner in which the equipment is used.

Beginner's boat

Boats and motors are a major investment, a very expensive package when discussing water skiing equipment. Many families purchase a beginner's boat that can provide many hours of fun. This beginner's boat may not be as costly as some

of the other boat selections that could be made. This beginning boat normally has either a four-cylinder I/O motor or smaller horsepower outboard motor.

The new boater learns to operate the watercraft and may even learn to ski on two skis. Later, the owner must consider buying a larger horsepower motor if the outboard boat will handle it or a new rig in the case of the four-cylinder inboard/outboard. This problem arises when the family progresses to learning how to slalom or ride a single ski. The boat with the smaller power plant does not have the initial pulling power to surface the skier. A family that plans on being a skiing family may want to consider spending more dollars initially to avoid trading or having to purchase a new rig in a two-year period.

A minimum horsepower outboard to consider is 85hp but 115hp is strongly suggested. Your boat should be a 16-foot or 17-foot runabout with standard features. Avoid small cabins and boat designs that add weight to the structure, requiring extra horsepower.

Stories are told about the power of the four-cylinder I/Os and how they perform.

Again, the small engines are fine for family cruising and for skiing on two skis, but these engines may have a difficult time standing up to the demands of slalom and more advanced skiing.

Boat buyers must also consider the number of family members and friends as well as the size of the individual family members. You should buy the boat and motor to accommodate these factors. The smaller I/O powerboats may suffice, but the 6-cylinder or small 8-cylinder power sources are stronger and will continue to have pulling power as the family grows.

Any boat buyer must consider the boats that are recognized as "ski boats" such as the Ski Nautique, Master Craft and Ski Supreme, to mention just a few. These boats have sufficient power for any family's water skiing needs and can serve as a pleasure boat for many years.

Life vest

Another purchase and probably the most important water skiing accessory is the life vest. The personal flotation device (PFD) is required by Pennsylvania law. This device is designed and tested to withstand

When you buy a PFD, be sure it fits comfortably without the possibility of it coming off. Skis made of ABS plastic with foam cores and comfortable bindings cost about \$165 to \$200 a pair. They'll last for years and you can use one for slalom skiing. Look for a 12-strand 75-foot poly rope with a handle, which sells for about \$20.

the impact and abuses of water skiing and float an individual face-up. Most boaters spend very little time discussing which PFD to buy and in many cases base their purchases on the price. Ironically, this accessory may save someone's life.

When buying a PFD, be sure that it contains a label marked with the U.S. Coast Guard approval. PFDs range in price from \$25 to \$65. Any vest in this price range is suitable for skiing. They come in two basic styles of vest-type garments. Both are constructed of Ensolite foam covered with either a nylon material or a baked-on vinyl. Both use nylon straps with buckles and some have zippers to secure them on skiers.

The important factor here is that the vest must fit comfortably without the possibility of coming off. Do not try to save dollars by sharing one ski vest for all the members of a family. It is not going to fit everyone properly. The PFDs that are in the \$10-\$25 category are the standard orange horse collar or yoke-type that are not comfortable or recommended for skiing. Keep in mind that the PFD must be U.S. Coast Guard approved. It may save you or your child's life, so isn't that worth a little consideration and a \$30 to \$50 purchase

More avid water skiers may be interested in a wetsuit for added warmth and protection. These are worn in addition to the PFD. Depending on the style and colors, these suits range in price from \$40 to \$150. Many ski manufacturers have wetsuits and PFDs that match the colors of the skis. These color-coordinated outfits are nice to look at, but realize that they do not improve your skiing.

You may see a skier on the water without a PFD donning a wetsuit. Most likely the wetsuit is a flotation or barefoot wetsuit that is approved for barefoot water

skiing and practice for other water skiing competitions. This garment's average price is about \$200.

Skis

Skis are found in all kinds, sizes and colors with varying prices. At one time all the skis were made of wood, with flat bottoms and you had very few choices. Today the majority of skis are constructed of fiberglass or ABS plastics with foam cores. They have different bottom designs such as the standard flat bottom or variations of the tunnel concave with bevels and tapers. Skis now have plastic or metal fins that drop through or mount on the bottom surface. The bindings come with or without foam linings and have pinch or cam-lock lever adjusters.

As in every other aspect of our world, skiing has also become hi-tech. There are a few easy hints to remember that may make your decision of which skis to buy a little easier. The first questions to consider are: What is the plan of usage for the skis, and do you want them to last for years or just learn on them and store them in the garage forever? There are skis available and priced for both types of purchases. It is possible to buy a pair of wooden flat bottom skis with economy bindings that are suitable for beginners for about \$50 to \$100. These are not the best buy if you want them to last for a period of years.

Manufacturers offer combination pairs of skis constructed of the ABS plastics with foam cores and comfortable bindings that are priced in the range of \$165 to \$200. A combo pair allows you to use one of the skis as a slalom ski in the future because these skis will last for years. These skis are also available with concave bottoms that allow the improving skier to advance his skills.

An individual may want to search for used skis to begin a program. Caution should be taken to find a pair of skis that are solid with bindings that will not need to be replaced immediately. Do not buy a pair of skis that are too light in weight. These skis are hard to control. Used skis normally cost about \$60 to \$75. This is a nice reduction from the price of new skis, but you own a used pair of skis that may need some repairs.

Ropes, handles

Ski ropes and handles can be very confusing equipment to buy. There are several different grades of poly-type ropes that range in prices from \$9 (for a rope and

handle) to \$45 only for a 70-foot section of rope.

Ropes are made of three basic materials—polyethylene, polypropylene and kevlar or plyarimid. Look for a 12-strand 75-foot polyrope with a handle that sells for approximately \$20. Stay away from the \$9 ropes because they twist, break and stretch. You'll see 70-foot sections of ski ropes (no handles) for \$35-\$40 that are for advanced skiers that have little or no stretch. These ropes will last for three to four years while others are ready for replacement in 1½ to 2 years.

When buying a handle you should look for a floating aluminum-core handle with molded rubber covering. Handles can be very expensive, but the caliber of skier determines the cost of handle that is needed. The average skier can buy any of the manufacturers' standard packaged handles and be safe. These handles, if bought separately, cost approximately \$10. As a skier becomes more skilled and begins skiing on a slalom, he will require the more expensive, grip-designed handles that are added to the 70-foot section of ski ropes.

Beginning skiing families can have many days of fun and excitement with the proper equipment. Faulty gear or the wrong equipment can cause individuals to become frustrated when they are learning. Let this information help you in your quest for water skiing equipment and add to your enjoyment on the water.



John M. Cornish II serves on Boat Pennsylvania's Editorial Advisory Committee. Last August he earned first place in jump- ing and wake slalom in the senior men's division at the 1987 Barefoot Nationals, held in Owego, New York. He placed third in tricks and second overall.

