

March-April 1985  
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# BOAT

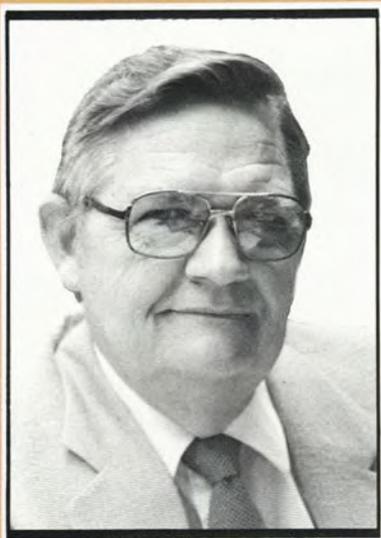
*Pennsylvania*



The Keystone State's Official Boating Magazine

# Viewpoint

## The Wallop-Breaux Fund



Gene Spori  
Assistant Executive Director  
Bureau of Waterways  
Pennsylvania Fish Commission

In the last issue of *Boat Pennsylvania*, we talked about where the money comes from and where the money goes. Let's continue by discussing a new federal source of revenue that over the years will be most important to Pennsylvania boaters.

Last summer, the National Aquatics Resource Trust Fund was established by the 98th Congress. This fund is popularly known as the Wallop-Breaux Fund, named after its prime sponsors, Senator Malcolm Wallop of Wyoming and Representative John Breaux of Louisiana. Revenues accruing to the fund come from the tax on gasoline used in boats, import duties imposed on foreign-built boats and associated equipment, and a tax imposed on items of fishing equipment not previously taxed under the Dingell-Johnson Act of 1950. The Wallop-Breaux Fund will accumulate revenues of about \$100 million annually. It is important to note that except for a tax on certain items of fishing equipment, no new taxes are being imposed. The act simply redirects into a dedicated fund monies already being collected.

Two separate accounts are contained in the fund, the Recreational Boating Account and the Sport Fisheries Enhancement Account. The first \$45 million accruing to the fund goes into the Boating Account, administered by the Coast Guard; \$1 million is deposited in the Land and Water Conservation Fund, administered by the Heritage Conservation and Recreation Service; and the remainder goes into the Sport Fisheries Enhancement Account, administered by the U.S. Fish and Wildlife Service.

Some \$30 million of the Boating Account is to be allocated to the states for boating safety and public access acquisition, development, and maintenance. The allocation is based on one third divided equally among applying states, a third based on boat

registration, and another third based on the amount of state monies invested in the program. If fully funded, Pennsylvania's share would be about \$600,000, or about \$3 per registered boat. Some \$15 million is allocated to the Coast Guard for its recreational boating program.

The Sport Fisheries Enhancement Account is important to boaters as well as to anglers. These monies are allocated in the same manner as are Dingell-Johnson funds. That is, a formula is used, which is based on a state's population, geographic size, and number of fishing licenses sold. The new law mandates that at least 10 percent of this money be used for acquisition, construction, and maintenance of boating accesses. It further provides that up to 10 percent may be used for aquatic education, which includes boating safety.

There is a technical aspect of this law that is important to you. Money deposited in the Boating Account must be appropriated annually by the Congress. Whatever is not appropriated spills over into the Sport Fisheries Account, which is a continuing appropriation. This means that the Fish and Wildlife Service may allocate this money as it accumulates in the Sport Fisheries Account without going to the Congress.

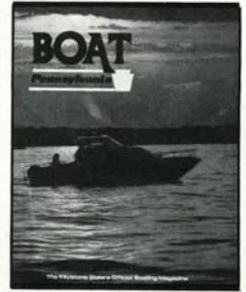
Last September, the Office of Management and Budget (OMB) determined that money not appropriated would revert to the General Treasury. The subsequent uproar by boating and fishing organizations got OMB to reverse its determination. But in these days of tight fiscal policy, budget reduction, and the Administration's commitment not to raise taxes, there's no guarantee that such a move will not be tried again. Be on guard! Don't feel bad about raising a ruckus. These are monies you have paid into a dedicated fund, and you should expect a return in the form of services.

A handwritten signature in black ink, appearing to read "Gene Spori". The signature is fluid and cursive, written in the bottom right corner of the page.

# BOAT

## Pennsylvania

The time to put your boat back in the water is almost here! This issue's front cover, photographed by Mike Simmons, shows a boat on Lake Erie that successfully went through its relaunching maintenance and tuning. Your boat, though, may not make it this far unless you check out the information in the article on page 14. The back cover, whetting the appetite for whitewater on the Yough, appears courtesy of Lance Martin, Wilderness Voyageurs, Inc.



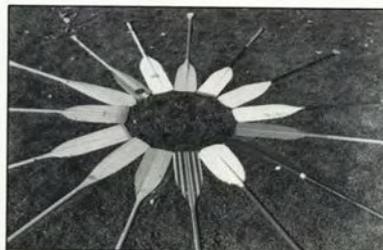
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### STAFF

Editor ..... Art Michaels  
 Graphics ..... Ted Walke  
 Photographer ..... Russ Gettig  
 Circulation ..... Eleanor Mutch  
 Staff Assistant ..... Jayne Povleski

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# Boating in Pennsylvania

by John K. Wiediger

**T**he Pennsylvania Department of Environmental Resources (DER) Bureau of State Parks administers 113 state parks throughout the Commonwealth. Some 57 of these state parks provide boating facilities, varying from the small whitewater launching area at Ralph Stover State Park in Bucks County to the sprawling Pymatuning Reservoir in Crawford County.

Boating on state park waters also provides great variety. Kayakers, canoeists, and rafters find challenging whitewater at such state parks as Ohiopyle, Lehigh Gorge, and Worlds End, or the family wishing to launch the canoe on less challenging waters can find facilities at Cook Forest, Poe Valley, Tyler, and Whipple Dam.

A father, taking his children out for an afternoon of fishing or cruising using his small runabout with an electric motor, can find solitude at such parks as Chapman, Ricketts Glen, and Tuscarora. The family with a new high-power boat can find excellent waters at parks like Bald Eagle, Elk, and Beltzville. Likewise, sailors enjoy the pleasant breezes found at Nockamixon, Moraine, and Codorus.

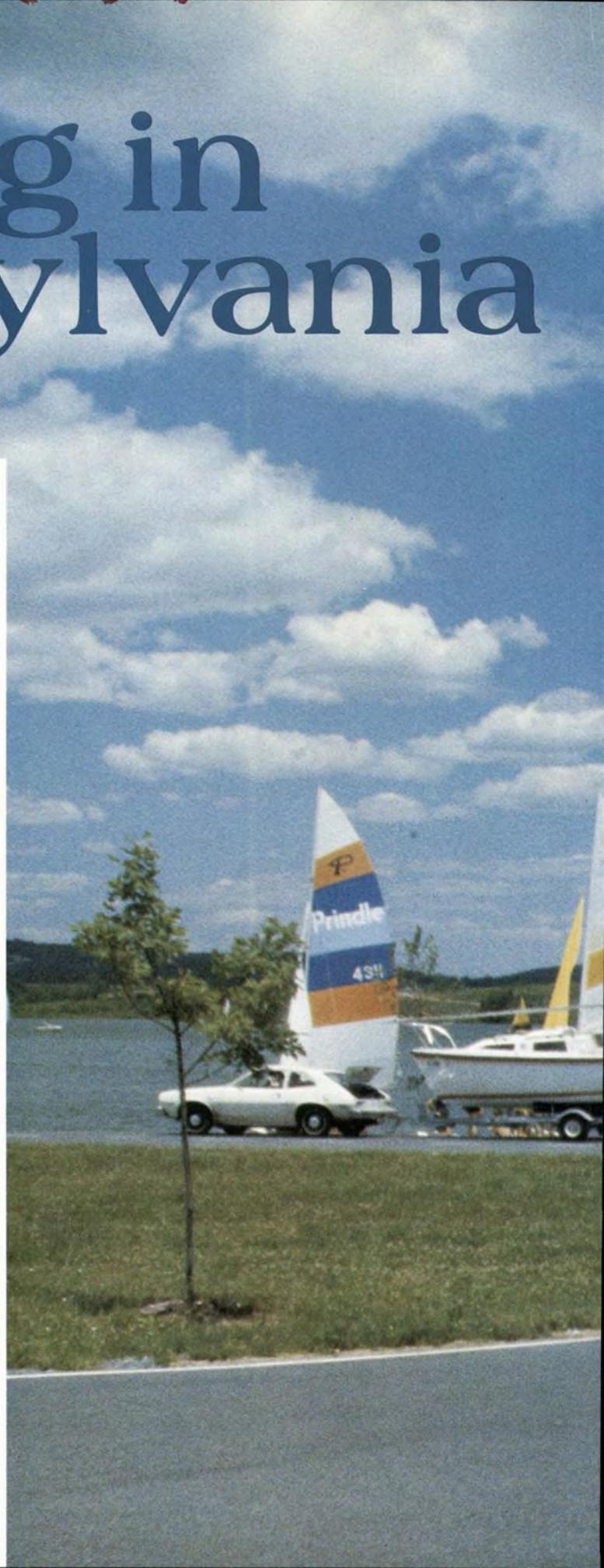
Like most waterways throughout the Commonwealth, weekends can be quite busy at state park lakes. Most boaters are aware of this fact and plan their outings accordingly. Canoeists seeking solitude visit weekdays or early or late in the day and usually see only a few fishermen. The high-speed skier enjoys the crowd that watches him early in the afternoon, while the sailor takes advantage of the winds during the late morning hours.

Boaters of all types can find their favorite water in a state park nearby. Here's a rundown of where you can find the best state park for the water sports you like.

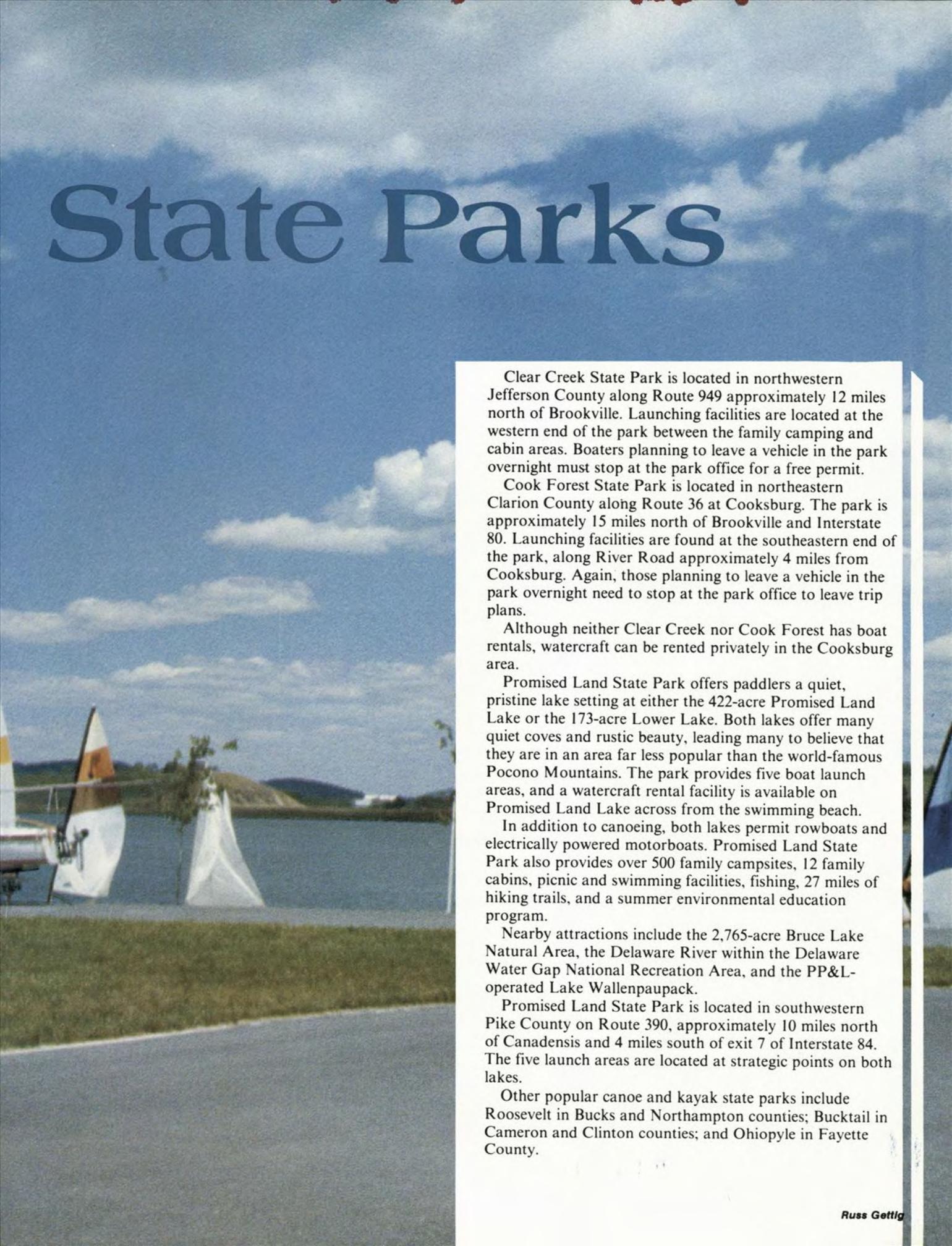
## Canoe waters

Cook Forest and Clear Creek state parks provide facilities for paddlers using the Clarion River in northwestern Pennsylvania. Both state parks provide launching and parking facilities, nearby comfort stations, and overnight accommodations. Boaters who launch at Clear Creek find the Class A, B, C, I, and II waters for the 10 miles to Cook Forest quite tranquil and refreshing. Wildlife is seen quite frequently.

Both parks provide family campgrounds and rustic cabins, hiking trails, picnic and swimming facilities, and summer environmental programs.



# State Parks



Clear Creek State Park is located in northwestern Jefferson County along Route 949 approximately 12 miles north of Brookville. Launching facilities are located at the western end of the park between the family camping and cabin areas. Boaters planning to leave a vehicle in the park overnight must stop at the park office for a free permit.

Cook Forest State Park is located in northeastern Clarion County along Route 36 at Cooksburg. The park is approximately 15 miles north of Brookville and Interstate 80. Launching facilities are found at the southeastern end of the park, along River Road approximately 4 miles from Cooksburg. Again, those planning to leave a vehicle in the park overnight need to stop at the park office to leave trip plans.

Although neither Clear Creek nor Cook Forest has boat rentals, watercraft can be rented privately in the Cooksburg area.

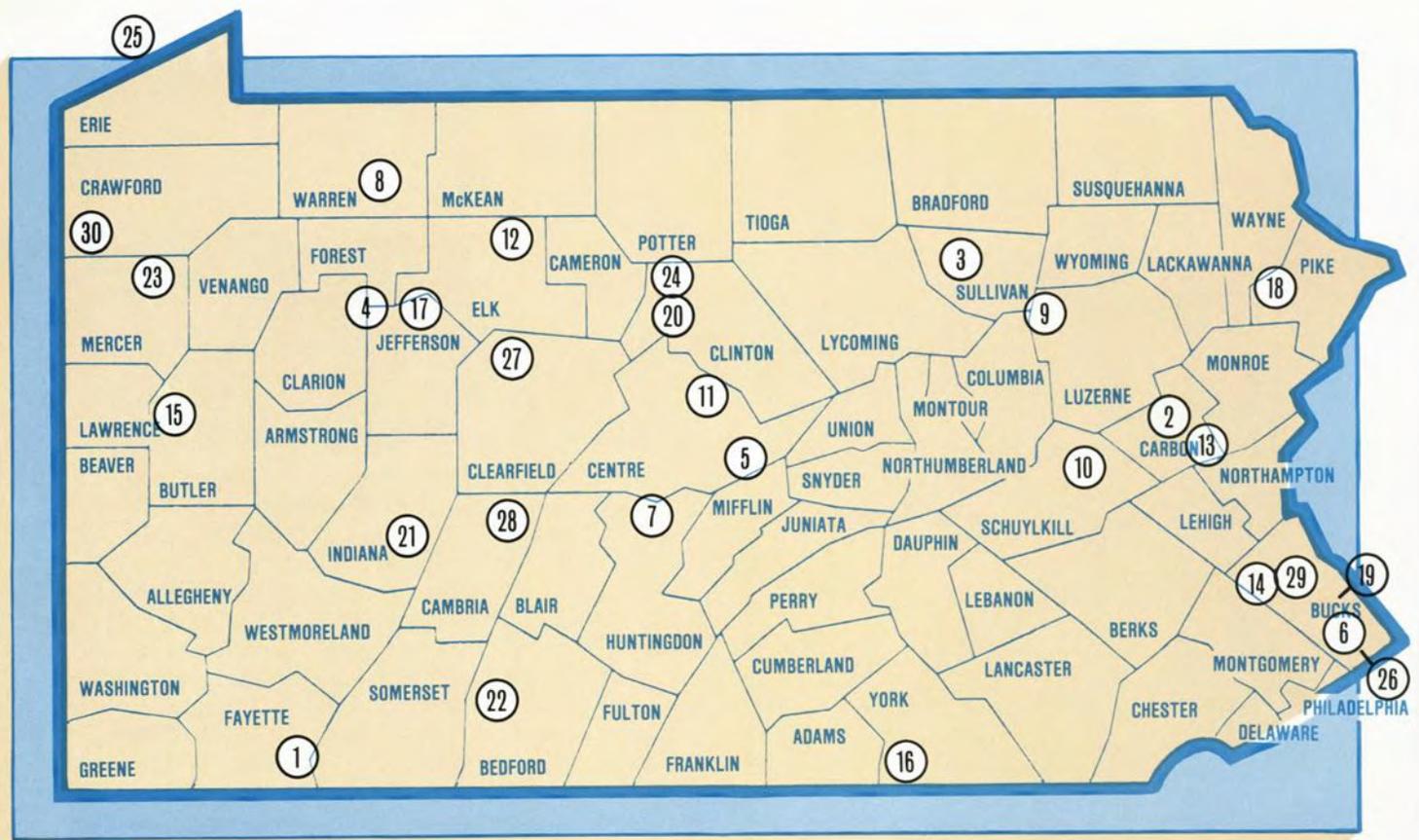
Promised Land State Park offers paddlers a quiet, pristine lake setting at either the 422-acre Promised Land Lake or the 173-acre Lower Lake. Both lakes offer many quiet coves and rustic beauty, leading many to believe that they are in an area far less popular than the world-famous Pocono Mountains. The park provides five boat launch areas, and a watercraft rental facility is available on Promised Land Lake across from the swimming beach.

In addition to canoeing, both lakes permit rowboats and electrically powered motorboats. Promised Land State Park also provides over 500 family campsites, 12 family cabins, picnic and swimming facilities, fishing, 27 miles of hiking trails, and a summer environmental education program.

Nearby attractions include the 2,765-acre Bruce Lake Natural Area, the Delaware River within the Delaware Water Gap National Recreation Area, and the PP&L-operated Lake Wallenpaupack.

Promised Land State Park is located in southwestern Pike County on Route 390, approximately 10 miles north of Canadensis and 4 miles south of exit 7 of Interstate 84. The five launch areas are located at strategic points on both lakes.

Other popular canoe and kayak state parks include Roosevelt in Bucks and Northampton counties; Bucktail in Cameron and Clinton counties; and Ohiopyle in Fayette County.



## Boating in State Parks

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## Small powerboats

Some 34 state parks are designated for use by boaters using electric motors or manual propulsion only. In addition, seven state park lakes allow gasoline motors up to 10 horsepower.

Yellow Creek State Park, located in central Indiana County, boasts the 740-acre Yellow Creek Lake. This park allows motors up to 10 horsepower and is also popular with sailboaters, canoeists, and rowboaters. Three boat launch facilities are available; one on the north side near MacFeather's Cove, one on the south side on Route 259, and one in the day-use area near the beach. Parking, picnicking, and comfort facilities are available at the north launch and the day-use area.

In addition to excellent boating, Yellow Creek State Park provides picnic and beach swimming facilities, hiking trails, and fishing. Although camping is not permitted in the park, some private campgrounds are nearby. Yellow Creek also provides numerous winter activities.

Nearby attractions include the historic Ewing's Mill and Museum built in 1824, and nearby state game lands for hiking and hunting.

Yellow Creek State Park is located along Route 422, 13 miles east of Indiana and 19 miles west of Ebensburg. Shawnee State Park, located in west-central Bedford



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DR. ZOOK

County, provides boating on 451-acre Shawnee Lake. Sailors, canoeists, and boaters, using electric motors only, find this quiet lake to their liking. Two launch areas are provided; one at the western end on Route 96, and the other in the day-use area near the island bridge. Overnight boat mooring is also available.

In addition to boating, Shawnee State Park provides facilities for camping, a large beach, picnic areas, and a 12-mile trail system. Nearby attractions include Old Bedford Village, Forbes Trail, and the Blue Knob Ski Area.

Shawnee State Park is located on Route 30 near Schellsburg, about 10 miles west of Bedford.

Other popular low-power state park lakes include M. K. Goddard (10hp), Mercer County; Kettle Creek (electric), Clinton County; Codorus (10hp), York County; and Nockamixon (10hp), Bucks County.

### Large powerboats, water skiing

Boating with unlimited horsepower and associated water skiing are available at several state parks.

Beltzville State Park, located in southeastern Carbon County, provides boating on 949-acre Beltzville Lake, which is operated by the U.S. Army Corps of Engineers for flood control. The park provides two concrete launch ramps with assorted nearby parking and comfort facilities. The Pine Run Launch is located in the park's day-use area, reached from Lakeside Drive, while the other, Preachers Camp, is located off Route 209 on the south side of the lake.

In addition to powerboating, the lake provides excellent fishing and restricted boat-speed areas in the lake's upper narrow reaches for small powerboaters and canoeists. Sailing is also quite popular at the western end of the lake.

Beltzville State Park provides several picnic areas, a large popular beach, 11 miles of hiking trails, and many winter activities. Nearby attractions include several state game lands and the popular Hickory Run State Park.

Beltzville State Park is located just off Route 209, five miles east of Lehighton and only a short distance from exit 34 of the Pennsylvania Turnpike's Northeast Extension.

Elk State Park, located in northcentral Elk County, is one of the undiscovered gems of state parks. The 1,160-acre lake, known as East Branch Clarion Reservoir or East Branch Dam, is operated by the U.S. Army Corps of Engineers for flood control.

The state park provides a launching facility, picnic area, comfort facilities, and a nearby modern campground. About 332 mooring spaces are also available. The park's launch area is found near the upper end of the lake off LR 24011 near Midmont.

In addition to the state park facilities, the U.S. Army Corps of Engineers provides a launch area, campground, and picnic area near the dam. The lake, although narrow, provides excellent water skiing through the narrow pristine valley. Nearby attractions include numerous state game lands and the sprawling Allegheny National Forest.

Elk State Park is located about halfway between Wilcox (Route 219) and Clermont (near Route 146) on LR 24011.

Other popular unlimited horsepower state park waterways include Bald Eagle, Centre County; Presque Isle, Erie County; and Neshaminy, Bucks County.

### Sailing

Sailing can be found on virtually all state park lakes. This activity can include the small windsurfer at the 20-acre Parker Dam to the several-masted schooners using Presque Isle Bay.

A popular sailing lake is located at Codorus State Park, located in southwestern York County. Codorus State Park surrounds Lake Marburg, a 1,275-acre impoundment. The lake has 26 miles of shoreline and the park provides eight boat launch areas. Motors up to 10hp are permitted.

Sailing enthusiasts, however, have top billing at this beautiful lake, which is surrounded by the rolling hills of York County. Codorus also provides a large marina, 198 family campsites, and one of the largest swimming pools in Pennsylvania. Additionally, equestrian and hiking trails, and summer environmental programs fulfill most all visitor needs. Two boat rentals provide a variety of watercraft.

Nearby attractions include Gettysburg National Military Park and the Lancaster Pennsylvania Dutch area.

Codorus State Park is located on Route 216, three miles east of Hanover and about 15 miles southwest of York.

By far, the largest state park impoundment is Pymatuning Reservoir located in Pymatuning State Park, which straddles the Ohio-Pennsylvania line in western Crawford County. The reservoir encompasses over 16,400 acres and 10 launch areas await boaters. Motors up to 10hp are permitted. Because of the huge expanse of water, it is a sailor's dream. Thousands enjoy the boating facilities each year.

In addition to the excellent boating, the park has superb fishing and hunting, four campgrounds with over 800 sites, four public beaches, and many picnic areas. Boat rentals are available.

Pymatuning State Park is located only one mile from Jamestown and is accessible from routes 7 or 322 or Route 18.

Other very popular sailing parks include Presque Isle, Erie County; Moraine, Butler County; Prince Gallitzin, Cambria County; and Nockamixon, Bucks County.



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*John K. Wiediger, park superintendent with the Operations Section of the DER Bureau of State Parks, serves on Boat Pennsylvania's Editorial Advisory Committee.*

*Remember that a state park launching permit is required for all non-powered watercraft or a current registration issued by the Pennsylvania Fish Commission. Powered watercraft must possess a current registration. All safety equipment required by the Pennsylvania Fish Commission is also required on state park lakes. Children under nine years of age and all non-swimmers must wear a U.S. Coast Guard approved personal flotation device when on state park waters.*

*For further information regarding these facilities, other state park waterways, or state parks in general, contact your nearest state park or write to: Department of Environmental Resources, Bureau of State Parks, P.O. Box 1467, Harrisburg, PA 17120.*

# How Boating Fared in the 98th Congress



"1984 was a banner year for boating-related legislation in Congress," reports National Marine Manufacturers Association (NMMA) Government Relations Director Ron Stone. "We have seen more activity on boating and other recreation bills in one year than we have for the past several years."

Here's a review of national laws and regulations that will effect Pennsylvania boaters.

- **Dingell-Johnson Expansion.** This compromise bill passed Congress last June, was signed by the president in July, and took effect October 1. It captures total federal taxes on fuel used in recreational boats for boating and sport fishing enhancement. It restructured the Biaggi Fund into the new National Aquatic Resources Fund (now referred to as the Wallop-Breaux Fund) and earmarks \$45 million in each of fiscal years 1985 through 1988 for boating and \$6 million for sport fishing.
- **Outdoor recreation review.** Legislation to create a second

National Outdoor Recreation Resources Review Commission passed the Senate but got caught in the House. Barring further legislative action, President Reagan may produce the Commission by executive order.

- **EPA and lead phasedown.** The Environmental Protection Agency has proposed to reduce the permissible lead content in gasoline by 91 percent as of January 1, 1986, stating that lead in auto exhaust is harmful to public health. While boating was not identified as part of the problem, it faces significant problems if lead is forced from the marketplace and if it requires boaters to find alternative sources of octane enhancement.

- **Anti-counterfeiting.** Congress acted to strengthen laws against commercial trafficking in counterfeit trademarked goods and services. In addition to boater safety, problems included damaged reputations, unfounded warranty claims, and product liability actions. The new law provides for fines not more than \$250,000 and

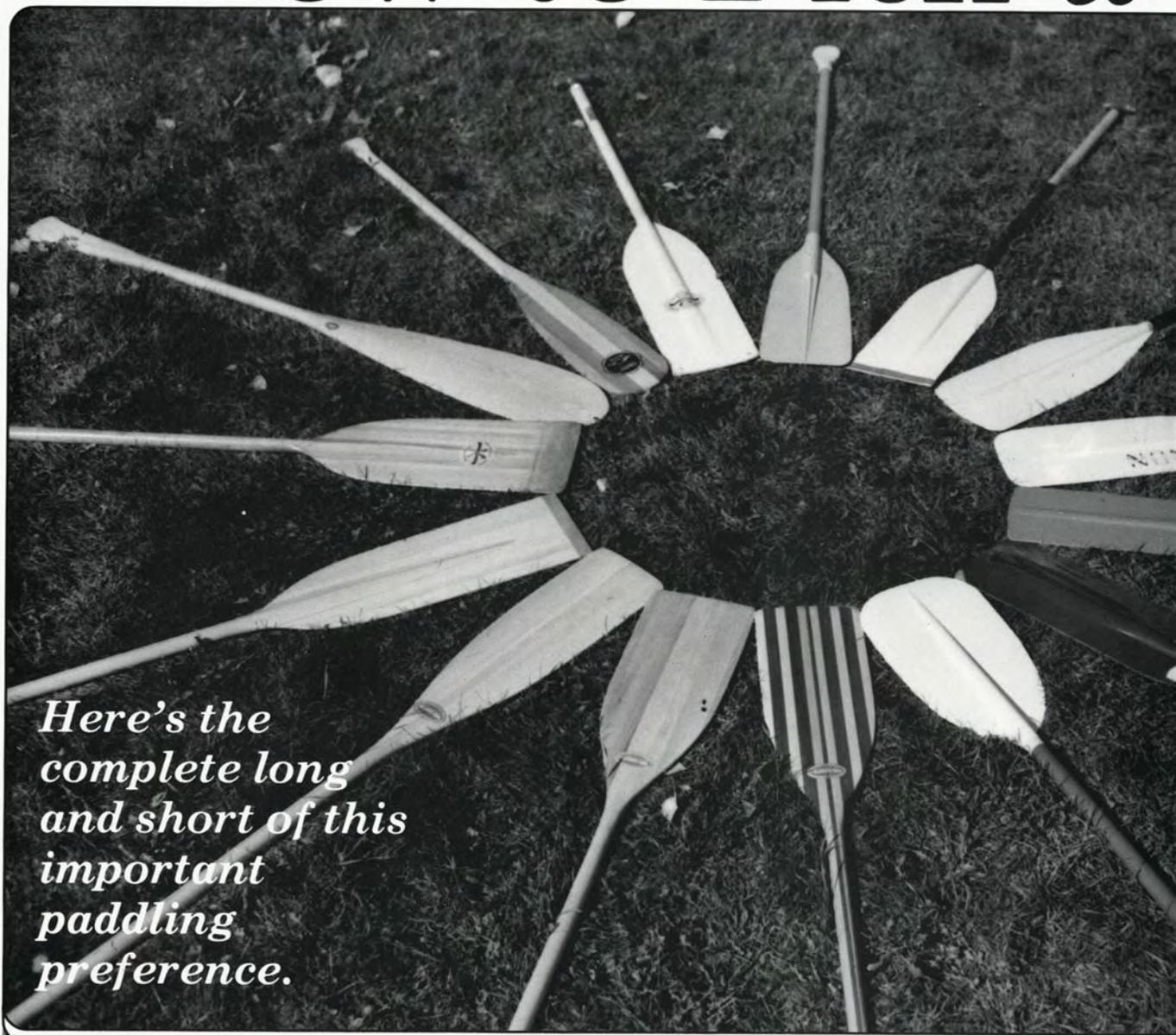
imprisonment for not more than five years for anyone who intentionally traffics or attempts to traffic in counterfeit trademarked goods or services.

- **Dealer responsibility.** The 1984 Coast Guard Authorization Bill prohibits dealers, distributors, and importers from selling a boat or associated equipment after receiving notification from the Coast Guard or manufacturer that it has a safety defect which creates a substantial risk of personal injury to the public.

- **Drunk Boating law.** Growing pressure to eliminate drunk boat operators is a spillover from the campaign against increasing deaths on the highways attributed to drunk motorists. Congress passed an act making it a federal offense to operate a boat when under the influence of alcohol.

*Greg Proteau is public relations director for the National Marine Manufacturers Association.*

# How to Pick a



*Here's the complete long and short of this important paddling preference.*

by

**Cliff Jacobson**

**G**iven the choice between propelling a good canoe with a bad paddle or vice versa, I'd have to think on it. Only when I was certain of the nature of both craft and engine could I make an intelligent decision. A really good paddle is essential to really good canoeing. You

just can't do good work with a shaved-down two-by-four.

### **The right length**

Nearly every text on canoeing offers these time-worn formulas for selecting the proper paddle length:

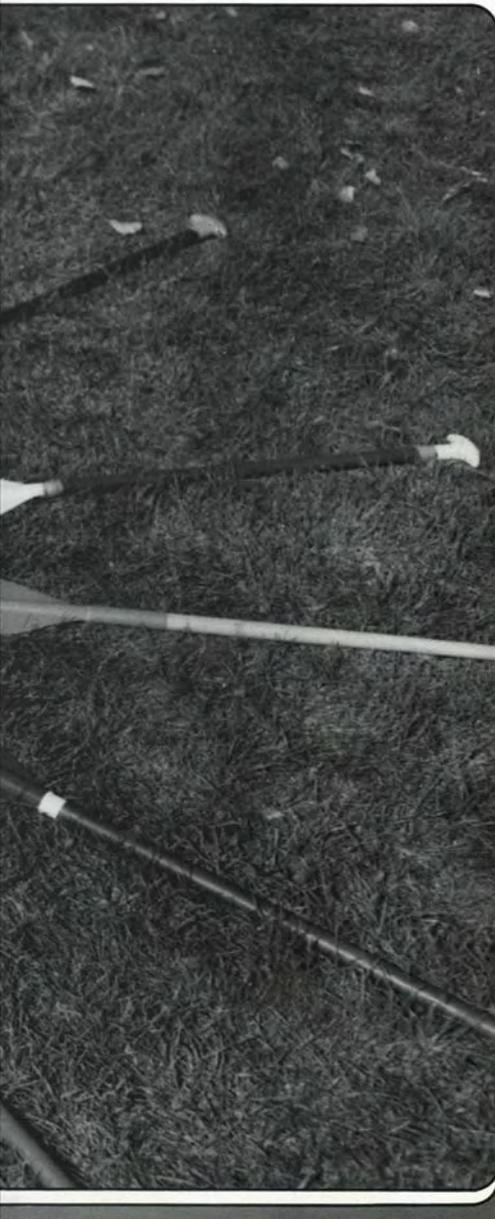
1. Nose to toes—the grip should reach your nose when the paddle is stood upright.
2. Chest span—Stretch your arms outward; the length of the span equals the length of the paddle.

3. A “bowman” should use a paddle that comes to his nose; a “sternman” should select one that comes to his eyes or the top of his head.

Nonsense! Any recipe for length must take into account the kind of canoe you're paddling, the height of the seat, the length of your torso, the reach of your arms, your own strength, and how you “prefer” to paddle (dynamic racing/switch style or slow-paced northwoods J-stroke).

As you can see, picking the correct

# Paddle



Royalex canoe are set relatively high (11-13 inches off the floor) for comfort, while those on the modern fine-lined cruiser are slung low (7-9 inches) for stability. The higher you sit, the longer the paddle and vice versa. What works best in one style canoe may be terribly awkward in another.

## Length of arms and torso

The length of your torso and reach of your arms affect paddle length, too. Long-armed folks who sit tall in the saddle can comfortably wield long paddles; short folks with short arms should do the opposite.

Here's the procedure, if you want to get technical.

1. Set your canoe in the water and climb aboard.
2. Measure the distance from your nose (height of the top grip) to the water. That's the *shaft* length. To this add the length of the blade (20-25 inches, depending on paddle style). That's the correct paddle length for you. Note that the overall length of the paddle is in part programmed by the blade length.

If you want to get more scientific, you can add another variable—the weight of your tripping outfit. The more gear you pile into the hull, the lower it will sit in the water, and the shorter your paddle must be.

Nonetheless, unless you're a masochist with figures, your original estimate, or the suggested length I've listed, will get you around in fine style.

## Straight or bent paddle?

As its name implies, bent paddles have their blades offset at an angle. Bends of 5 to 17 degrees are available, though 14 degrees is most popular.

Here's why the bent shaft is more efficient: When you complete a forward stroke with a straight blade, the blade is in a "climbing" position on recovery—it lifts water and consequently slows the canoe. But the forward bend of the angle paddle puts

the blade perpendicular to the water at the end of the stroke, so no water is lifted and no speed is lost. All energy is transmitted into forward motion.

Bent paddles are more efficient than straight paddles, and that's why every canoe racer and performance-minded cruiser uses them. Still, bent shafts are not ideal for all types of canoeing. They're a bit awkward in rapids and they don't lend themselves to the powerful steering strokes of northwoods-style (J-stroke) paddling. They're simply not as versatile as straight paddles.

Should you buy a bent paddle? That depends on the type of canoe you paddle and how you "prefer" to paddle. It's probably pointless to use a bent shaft in a typical aluminum or Royalex canoe. Reaching over the wide gunnels of these boats tends to diminish the effectiveness of the "push-down-with-your-shoulders" racing stroke. Angle paddles are not really for beginners. Only after you've mastered canoeing and can precisely control the blade angle of a straight paddle should you invest in a bent shaft, and then only if you prefer the dynamic power-paddling technique favored by today's racers. If your preference is gliding silently among the lily pads, or casting a lure into quiet waters, then forget about bent paddles. You may not like them at all.

If you do choose a bent paddle, specify the length that's two inches shorter than your favorite straight shaft.

## Blade style

There are dozens of blade styles, but all are variations of the basic shapes outlined below. Some canoeing texts suggest that blade shape isn't very important, that you should choose what you're "comfortable with." That's not quite correct. Paddles, like canoes, are designed for specific purposes, and each blade style has its place. The four shapes outlined here pretty much cover the gamut of canoeing possibilities.

• **Modified racing or "cruising" paddle.** The modern laminated cruising paddle has straight sides, a squared-off tip, and fairly abrupt shoulders. The 8-inch-wide to 9-inch-wide blade provides plenty of surface area for making time in aerated water, yet the blade is narrow enough for

paddle length depends on a number of variables, all of which are interrelated. For this reason, experienced canoeists often own several paddles (I have 12, which isn't nearly enough), each designed for a specific purpose and paddling style.

Let's dissect the variables that affect paddle length:

## Seat height

Seat height is important. Seats on the typical high-volume aluminum or



effective control. Long-bladed paddles are best suited for use in deep lakes; short-bladed ones are the choice for shallow rivers.

• **Racing paddle.** The wide tip provides plenty of surface area in shallow rivers (where you can't submerge the whole blade), and the tapered shoulders allow you to bring the blade very close to the canoe for greater power and less frequent directional correction. The short blade also means less weight, hence faster recovery at the end of the stroke.

• **Beavertail.** Most ancient of the blade shapes, the beavertail took its form as the most efficient shape that could be cut from a single six-inch-wide board. When good waterproof glues were developed, the modern laminated paddle evolved and all but replaced the venerable beavertail.

However, beavertail paddles are making a mild comeback among both traditional northwoods canoeists and those who favor the solo art. The long, narrow, somewhat whippy blade of the beavertail makes subtle steering ala northwoods style (J-stroke) remarkably easy. A good solid ash beavertail paddle is strong (it has no square corners to break off), beautiful, and much more efficient than most modern canoeists like to admit.

• **Sugar Island.** A modification of the beavertail, the Sugar Island has its greatest width at the tip, which makes it better for use in shallow and aerated water (rapids). The Sugar Island style is favored by some of the best freestyle solo canoeists.

Consider this summary of factors that affect the choice of the blade shape.

1. A long, narrow blade is best for steering maneuvers required in northwoods style and freestyle solo canoeing.

2. A wide blade is best for use in shallow and aerated water.

3. The wider the blade, the more awkward and noisy it will be when pulled through the water. Avoid wide blades if wildlife photography and fishing are your main reasons for canoeing.

4. Paddles with splines (vertical ribs) down the center tend to be noisy when pulled through the water, and they are poorly adapted to side-slip maneuvers.

5. Stiff-bladed paddles are best for

*photos by the author*

use in aerated water, while those with "reasonably flexible" blades are preferable for all-around canoeing.

6. Too much flex in a paddle blade, as evidenced by some inexpensive plastic paddles, is bad. You can't paddle well with a blade that rubber-bands through the water.

7. Blades with square corners take a substantial beating in rocky areas. Square tips must be reinforced with a synthetic material (fiberglass, Kevlar, Lexan) to keep them from breaking off in shallows.

8. Square-tip exhibit rotational torque if they're not set into the water exactly perpendicular. For this reason, beginners should avoid them—or round the corners on a wide radius. Choose the square tip only after you've mastered the fine points of paddle control.

By now, you've probably developed some specific preferences for paddle shape. If not, I suggest you start with something that resembles a cross between a cruising paddle and a beavertail—eight-inch-wide blade, tapered edges, and rounded tip. This design will perform a multitude of tasks well.

### Grip style

There are T-grips, pear grips, modified T's, and offset grips. What's best is a matter of preference, though there are some loose guidelines:

T-grips provide precise control of the blade angle, a reason why nearly every serious whitewater canoeist chooses them.

There are "good" and bad pear

grips. The best ones, which are never found on cheap paddles, come very close to complete perfection and are ideal for every use except perhaps the hairiest white water.

Offset grips are best adapted to the bent paddle because they put the center of your hand in line with the force of the paddle blade. You'll also find offset grips on some good straight paddles. Whether or not this is a good idea is debatable.

Most canoeists will probably be happiest with a generous pear or "soft" T-grip. The one place where a T-grip is out of place is in the modern freestyle canoe. Freestyle technique requires a number of unorthodox moves, many of which call for a slightly rotated grip on the paddle.

### Weight and balance

The lighter the paddle, the better. Period! The best paddles balance just behind—or within an inch or two—of the blade and transmit a feeling of "unawareness of the blade" when you heft them.

### Construction

You can get paddles of solid wood, laminated wood, Kevlar, plastic, fiberglass, aluminum, and composites—wood with foam-core blades, aluminum shaft with fiberglass blades, etc. Again, it's a matter of preference.

Lift the paddle and swing it through the air. Check the flex of the blade—except for tough white water, there should be some. Do you like what you feel? Is the paddle durable enough to

meet your needs? Can you afford the price? Good. Then buy it!

### Customizing

In all my years of canoeing, I've owned only two paddles that felt "perfect" when I received them from the manufacturer. Every other paddle I've owned had to be customized. Either the grip or shaft didn't feel right, or the blade shape was inappropriate. And I've never had a paddle whose finish I was completely satisfied with. Invariable, I sand and re-varnish every new paddle until it has a distinctly silky feel.

Finally, don't expect miracles from even the best paddles. Human hands are very individualistic and so too must be the paddles that fit them. Don't be afraid to file and sand a new paddle until it "fits right." After all, the only one you need to please is yourself. And, if pleasing yourself means spending \$75 for a really fine paddle, then go to it.

Then later, when the icy grip of winter confines you to the warmth of your wood stove, take your paddle off its rack, swing it in proud defiance of the snows, and re-live the joys of running water and the magic of your canoe.



*Cliff Jacobson has 32 years of canoeing experience and is one of the foremost canoeing experts in America. He is the author of three canoeing books, the latest of which is Canoeing Wild Rivers, published by Stackpole Books.*

## Suggested Straight-Paddle Lengths for use in Canoes

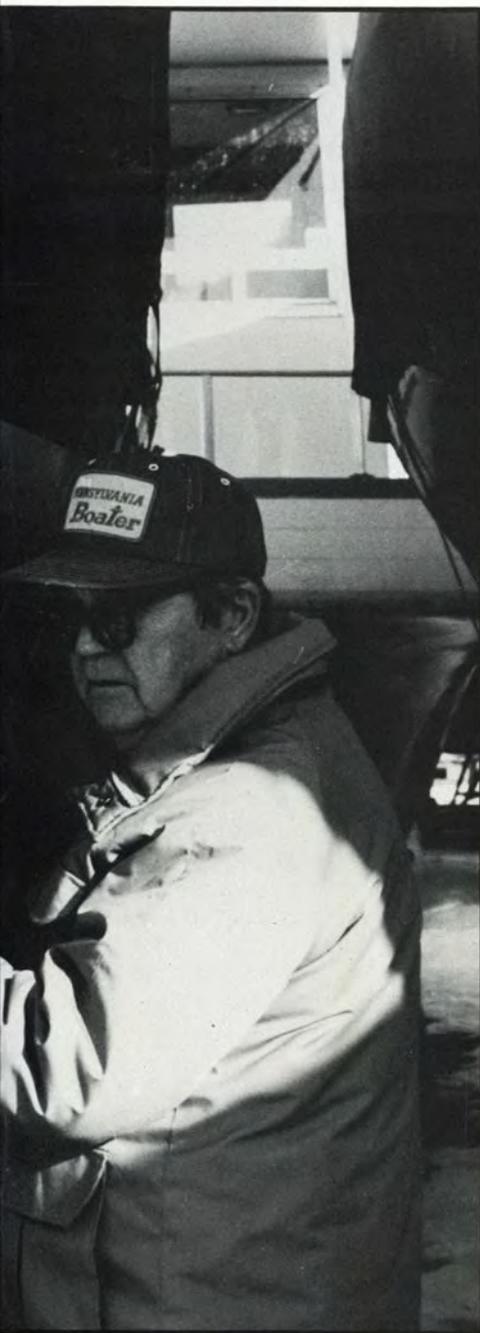
	<i>Stock aluminum and Royalex canoes (Grumman, Michi-craft, Mad River Explorer, etc.)</i>	<i>High-performance cruisers (Sawyer cruiser, We-no-nah Jensen, Old Town Columbia, etc.)</i>	<i>Solo racers and fast cruisers (Sawyer Summersong, We-no-nah Advantage, etc.)</i>	<i>Freestyle and whitewater solo canoes (Old Town CJ Solo, Mad River Lady-slipper, Galt-Dandy, Blue Hole Sunburst, etc.)</i>
<i>Persons with Short Torsos/short arms</i>	53 to 54 inches	50 to 52 inches	51 to 52 inches	56 to 58 inches
<i>Average length torsos and arms</i>	54 to 56 inches	52 to 53 inches	53 to 54 inches	58 to 60 inches
<i>Long torsos/long arms</i>	57 to 60 inches	53 to 54 inches	53 to 55 inches	60 to 64 inches

*From deck to keel and bow to stern, now's the time to recondition your boat for relaunch.*



# Back in the Water Again!

*by Gus Neuss, Jr.*



area at your yacht club or marina, and the desire of the club or marina personnel to have all yachts in the water by Memorial Day. Your plan should include all items of work that must be performed while the yacht is high and dry. In addition, the plan should include the work yet to be performed after launching — work necessary to satisfy a complete outfitting. Time all work tasks to establish a start date, and order and have on hand all material, tools, and equipment required to meet the schedule.

To ensure that no critical items are overlooked, make a thorough inspection of the hull from deck to keel and bow to stern. This review should note any repair or replacement work needed. Check the integrity of through-the-hull fittings, water inlet screens, sensors, and transducers; the condition of I/O drives, propellers, propeller shafts and bearings, rudder(s) and rudder supports, trim tabs and actuators, and swim platform, if so equipped, and the anodes for electrolysis protection.

### Priority tasks

Below-water-line reconditioning is the priority item. Regardless of hull material, whether fiberglass, wood, or metal, preparation of the boat bottom for painting must be accomplished. The extent of this task varies. It may be a simple job of sanding the surface, or it can mean complete removal of the existing unsatisfactory finish down to the bare hull, with subsequent filling and priming before painting. On planked wood hulls, seams must be recaulked as required and not only the bottom but the entire hull checked for dry rot. If rot is discovered, your work plan may require major revision to accommodate rewooding the affected area.

Sanding the boat bottom can be a dirty, dusty, and unhealthy chore. Because most bottom paints are toxic, a face mask and goggles should be worn for respiratory system and eye protection when sanding. The only exception to wearing such protective equipment would be if you can maintain a sufficient distance from the sanding operation so that you are not exposed to the dust.

An effective sanding tool that provides distance between you and the

dust is the swivel-head dry wall sander. This device, originally designed for sanding the joints of dry wall in home construction, is ideally suited for sanding round-bottom hulls, particularly sailboats. Using one-half sheet of sandpaper, its universal joint head and long handle make for excellent surface preparation, without contaminating the person sanding. Power sanding equipment must be hand held, with the operator close to the generated dust, mandating the use of protective breathing and eyesight devices.

Sandpaper type and grit size is determined by the amount and type of material to be removed and by the finish you desire for the surface before painting. Experimentation for your particular application is recommended. Most bottom paints tend to load the paper during sanding. Wire brushing at intervals cleans the paper and provides for economy of use. Remember that the quality of the finished painted surface is no better than the surface you have when you have completed sanding. What you see is what you get. Voids, pits, pock marks, gouges, etc., if not filled will be visible after painting. They just don't cover.

Bottom paint selection is best left to the individual yacht owner. Paints range from soft anti-fouling types to hard racing bottom finishes. Several manufacturers furnish excellent-quality paints with good anti-fouling characteristics. If you are content with your present paint, continue to use it. If dissatisfied, don't hesitate to seek advice from your fellow yachtsmen on other paints and their compatibility with your present finish. A change can mean completely removing the old paint to the bare surface, and priming may be necessary before applying the new coating.

### Painting

Application can be by roller, brush, or spray, depending on the type of paint used. If a pressure sprayer is used, don't forget to wear a face mask. Make certain the finish is clean and dry. Moisture is a prime cause of tiny bubbles in the finish. Wiping the surface to be painted with a lint-free rag soaked in denatured alcohol dehydrates the surface as the alcohol evaporates. To minimize moisture

## photos by the author

**P**lan your work and work your plan! This adage is never more true than in reconditioning your boat for spring launching! Usually, the launch date provides the impetus for preparing the work schedule. That day may or may not be convenient for you, depending on the location of your yacht in the storage

problems, paint only when temperature and humidity are favorable, such as temperature in the 50-degree to 80-degree range out of direct sunlight. Use the recommended thinner as required to give a smooth, flowing nonsagging finish. If one coat covers adequately, don't put on a second. This minimizes the amount of sanding a year from now.

On completion of this phase of your work plan, with your boat supported on blocking or on its cradle, temporarily store your sanding and painting equipment and material. You will need them again as you are picked up in the sling for launching and the support areas of the hull are exposed. On centerboard boats, lower the board as far as possible and give it the sanding and painting treatment, too.

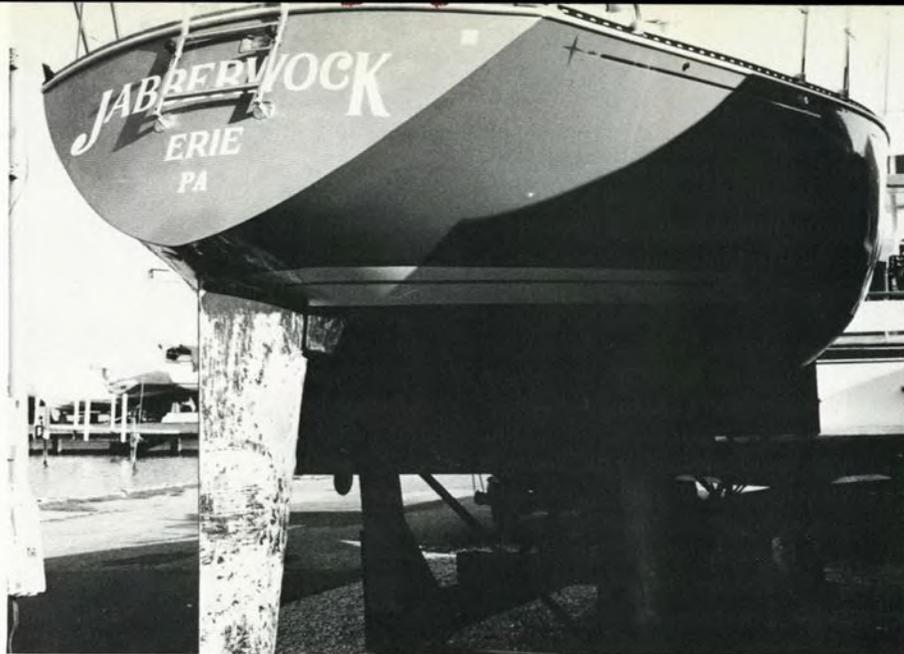
### Repairs above the waterline

Work above the waterline that must be completed before launch is boot stripe and hull refinishing. First, this requires the removal of the cover and framing used for winter protection. Note now the condition of the cover. Will it be suitable for the next winter season, or will it need repair or replacing? Also, if necessary, mark "port," "starboard," "bow," and "stern" on the cover(s) in permanent contrasting color to facilitate the next use. Code the framing also as it is removed. After you have stowed away this protective gear, you can get back to the yacht.

Wood hulls should be thoroughly examined for dry rot. Affected sections should be replaced, and any exposed wood treated with preservative. If the present painted finish is satisfactory, a thorough washing with a good detergent solution will suffice. If painting is necessary, the surface must be sanded and imperfections filled and primed. A variety of gloss and semi-gloss paints with good leveling characteristics is available for above-waterline use. Boot stripe painting routine is similar except for color. Mask at the color parting lines for that neat, professional look.

### Wood work

The natural finish of wood is beautiful but difficult to maintain. Mahogany particularly requires considerable work to keep it



**The owner of this boat already has sanded the bottom and waxed the hull. Only bottom painting before launch is the last task to be accomplished.**

unblemished. If your yacht has a varnished mahogany transom and other bright work, allow ample time if refinishing is necessary. Settled, dust-free and moisture-free temperate weather is a must for varnish application, with several coats required for that showroom appearance. Going to bare wood also means relettering the yacht name and port of call.

Metal hulls requiring repainting should be primed down to bare metal. As with wood, the old surface is sanded and filled, if required, before painting. If the existing finish is satisfactory, washing will be all that is necessary.

Fiberglass hulls with their exterior layer of gel coat, if unblemished, can be brought to like-new condition with a washdown with a detergent solution to cut surface dirt and with the application of a good wax. The amount of surface oxidation and damage determines whether or not the use of a rubbing or polishing compound is a prerequisite to the waxing. Scratches and scuff marks polish out with sufficient rubbing with compounds containing mild abrasives. Deep gouges must be filled. Gel-coat repair kits are available, which include tubes of primary color pigment so that you can match your hull color. Hulls that require complete refinishing are best repaired in controlled conditions by professionals. Such work should not be part of your spring work plan.

### Aboard, below deck

With the bottom and hull exterior now complete before relaunch, go aboard and below deck. Inspect all through-the-hull fittings inboard for condition. Do the same with connecting hoses, replacing where necessary. Make certain that all hose clamps are tight and not rusted—the tightening screws of stainless clamps in some instances are not stainless. Close all through-the-hull valves. You'll open them after launching to check each for leaks.

Make certain bilge pump inlet and discharge hoses are connected and that pumps are operable. They may be needed if your yacht takes on water on launching. Battery operated pumps require power. If you removed your batteries last fall, reinstall them now. Make certain they have a full charge. Repack propeller shaft packing glands now, if this is necessary. Make the packing nut adjustment after launching. Don't tighten at reassembly because it will score the shaft. You will need some water-drip to the bilge for lubrication. On wheel steering, check sheaves, quadrants, cables, chain, and sprockets for wear. Lubricate cable at flex areas with a good grade of oil. (See page 22 of the January/February 1985 *Boat Pennsylvania*.) Oil or grease sheaves, axles, and sprockets per manufacturer's instructions. Check your rudder post housing for a grease fitting. On yachts so equipped, lubricate it.



Here is a good selection of paints, thinners, teak finishing materials, and mahogany finishing products.

### Engine check

You will need power to move from the launch basin to your mooring or pier, so an engine check is in order. Pull plugs and clean or replace them as necessary. Remove the distributor cap. Dry out any moisture and clean the contacts. Check the rotor, points, and gap. Remove the masking tape from the exhaust outlet(s) in the hull. Remember that on launching, the water inlet valve for the engine coolant system has to be opened after all engine drain plugs and water pump covers are secured. Check the flame arrester for cleanliness. Verify that oil levels are OK. Before opening the fuel supply valve, which you closed last fall, operate the bilge ventilation blower and verify that your fire extinguishers or extinguishing system are functioning.

If you removed life jackets, throwable life preservers, fenders, mooring lines, etc., re-equip sufficiently so that you are legal and can tie up safely without marring that recently finished hull. Also, remember that the finish you worked so hard to obtain is damaged by the slings on moving you from cradle or blocks to the water. Provide your own protection with carpeting or heavy paper between slings and hull. Hanging in the slings before launch, the exposed portions of your yacht need a final sanding and painting of the bottom. This may be your final look at the boat bottom until the

season ends. Now is the moment of truth. Are you satisfied with what you see?

Remain in the slings after the launch until you have made a complete check below decks for leaks. With a wood-hull boat, you may have to schedule your launch to be the last of the day, so that the hull can seal itself while suspended in the slings overnight. Do not permit removal of the slings until all through-the-hull fittings and valves and hoses have been checked for leaks. Make a check of the propeller shaft gland(s) at this time, too. When you are satisfied you are dry, have the slings removed and move out of the launch basin to fire up your engine for the first time this year.

The balance of your work to complete the plan can now be accomplished at your convenience. Whether a sail or power yachtsman, you will be bringing back on board your radios, navigational equipment, and other electronics removed last fall or added during the winter. Functional checks can be made as you complete the reinstallation. More mundane jobs include removal of anti-freeze from the water supply and the head holding tanks, and their refilling or recharging, and the recleaning of the ice box or refrigerator, stove, and all the cabin interiors. Then you can bring back the cushions for seats and bunks (are they clean?) and start provisioning.

### Sailboats

Masts must be resteped. This work requires scheduling if it's done by paid personnel. Before the resteping, check all standing and running rigging to make certain it is flawless. Inspect all mast-containing sheaves for condition. Check continuity of all wiring within the mast, and verify that all lights are operating. Mast head weather instruments, their sensors, and connecting wiring must be checked for proper mounting operation. The radio antenna and its coaxial cable and connection should be inspected for integrity.

If you plan to clean or refinish your spars (mast and booms), do it before rigging. Uncoated aluminum can be cleaned using a soft abrasive to remove the oxide film. Wax afterwards. Anodized or painted aluminum can be renewed by washing with a detergent solution and by applying a good automotive wax. Varnished or painted wood spars would be treated the same as you worked similar finishes on the hull. Remember also to do the spreaders and to reinstall the cabin top boot if it was removed from the mast.

Stepping the mast routine varies by yacht type and size. If you are doing the job yourself, get sufficient help to ensure proper handling so that no damage occurs to the mast, its instrumentation, or to the yacht itself. Special attention is a must for positioning roller furling jib headstay equipment. After assembly, recheck the condition of your turnbuckles. Use new cotter keys. Run the turnbuckles snug. Make your final tuning of the shrouds later at your convenience. Install the boom and its rigging, break out the mainsail, and you're ready for your first sail.

Now, with the work done, everything should be OK? Have a good boating season. You can complete the above-deck work and teak cleaning anytime you want. See you on the water!

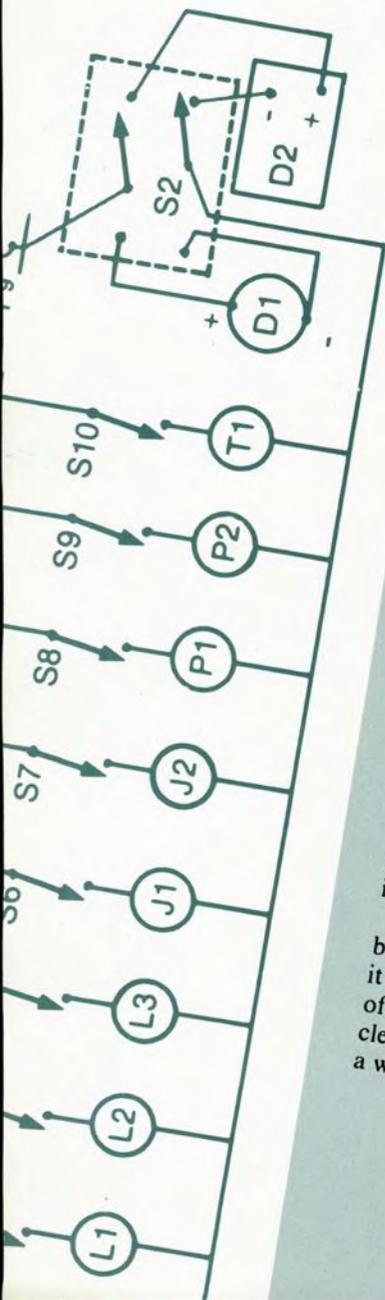


*Gus Neuss, Jr., has sailed all over North America. He is a member of the Erie Power Squadron and the Erie Yacht Club, and he's a director of the Pennsylvania Boating Association. Mr. Neuss serves on Boat Pennsylvania's Editorial Advisory Committee*

Your boat's electrical system often fails before your engine konks out, so troubleshooting the boat's wiring is essential. The author helps you charge into that task.

# Wiring is Your Boat's Achilles Heel

by Howard A. Bach



**T**he time is at hand when we remove our boats from storage and get them ready for launching. Certainly, a major concern is whether the motor will function properly, but if trouble occurs with the boat it will most likely be with the wiring and electrical accessories, not the motor. Fortunately, it is not difficult to troubleshoot your boat's electrical system and make do-it-yourself improvements if needed.

## Battery

The place to start is with the battery. Hopefully, it was removed before the boat was placed in storage, kept in a cool, dry place, and recharged as needed. If you left it in the boat, it will, as a minimum, require a charge when it comes out of storage.

Before charging, check the water level in the battery. If it is over the plates by even an eighth-inch, do not add water before charging. The water will expand from the heat of charging. If you must add water, add only enough to cover the plates. Too much water only dilutes the battery fluid, and the excess will overflow or boil off in the charging process.

Next, clean the battery by using a baking soda and water solution. Brush it on any corrosion deposits, and rinse off the solution to leave the battery clean. Clean the battery terminals with a wire brush or cleaning tool to ensure

a good electrical contact. Do the same with the battery cables.

Charge the battery fully. If it will not take a charge, it probably needs re-placement. If, after charging, your tester shows each cell nearly charged but you cannot get the final ball to rise in the tester, the battery may be all right. But in either of these cases, take the battery to your dealer and have him check it. In some instances the dealer can add a little acid to restore the battery to the proper specific gravity. Any addition of acid to the battery should be done only by a battery service station.

## Lights, accessories

Next, check each light and accessory to ensure that it is operating. If it operates weakly or not at all, it will be necessary to trace that circuit to determine where it has failed. The first place to check is the fuse if there is no power to an accessory.

There are two handy instruments that can take all the guesswork out of troubleshooting the wiring on your boat. The first is an inexpensive multimeter, which can be purchased for about \$15. The DC voltage scale can be used to detect the presence of voltage at any point in the circuit. It will also show voltage drops in circuits, a sign that larger wiring should be used or that something like corrosion or a loose wiring joint is impeding the flow of current in the circuit.

## Connectors

A popular wire connector is a plastic device with metal blades, often used in automotive applications to attach a wire to a running length of another wire. Both wires are placed in the connector and the connector is closed with a pair of pliers. The blades bite into the wire, making contact. Though they're easy to use, these connectors should be avoided. They tend to go bad, even in automotive applications. In boats, subject to moisture, they fail even more readily.

Best of all, if the installation permits, is a soldered connection with the finished joint taped to insulate it. Heat-shrink tubing is also good for insulation. It can be slipped onto the wire before the joint is made, then pulled over the joint. Heating the tubing with a match or soldering iron causes it to shrink around the joint, making a tight plastic coating for the connection.

The other useful tool for troubleshooting circuits is an electrical tester, available at any automotive supply store. It is about the size of a screwdriver, with a sharp point where the blade would be. The handle contains a light bulb. From the handle there is a length of wire with an alligator clip. To use the tester, the alligator clip is fastened to the ground wire or connection of the circuit, and the point touched to various parts of the circuit. When voltage is present, the bulb lights. The sharp point of the probe can be pushed into the wiring to check for voltage anywhere in the wiring, most useful for finding a broken spot in the wiring. Pay special attention to any point in a circuit where there is a connection. If the point is corroded, clean it with sandpaper and refasten it. Where a connector is suspected, cut the wire next to the connector, strip and clean the wire, and attach a new connector.



**Below, the electrical tester is used to check the lighting circuit in the trailer electrical plug of the tow vehicle. The test could also be made by attaching an alligator clip to a metal part of the car body.**



A boat manufacturer wiring specialist, with whom I recently discussed trends in boat wiring, highly recommends the use of heat-shrink tubing in many wiring applications. He even uses it over joints that are plug-in, like spade terminals. It protects the joint from moisture, insulates it, and helps maintain the mechanical strength of the joint. If it's necessary to unplug the connection, the heat shrink tubing can be easily cut away.

When checking lighting, be sure to test your bulbs. The easiest way is to substitute a spare bulb, and spares should be kept in the boat for each bulb and fuse size used. Bulbs and fuses can be tested with a multi-meter by setting it on the "ohms" mode to read resistance. In this mode, the meter can be used as a continuity tester to evaluate "cold" circuits and components like switches and wire.

Most modern boats are wired with a single, heavy pair of wires running from the battery to a fuse block near the console. Each lighting or accessory circuit is taken from the fuse block, with its own fuse and a switch in the positive line. This arrangement not only provides for easy troubleshooting, but adds to the safety of the boat by isolating each circuit in the event of trouble. Experts recommend taking this another step by providing a circuit

breaker in the main hot wire coming from the battery. This breaker passes the current for all the boat's electrical needs, except the motor, which is wired directly to the battery and has its own internal circuit breakers for protection. With that arrangement, a short circuit in the lighting or accessory circuits cannot disable the boat.

If the initial early season checkup includes the battery, fuses, all connections, and wiring, and if everything is put into proper condition, you should experience no further trouble during the season. However, if trouble should occur, the following sequence should be followed.

If everything is dead, check the battery, battery terminals, and main circuit breaker.

If only one accessory is dead, check the fuse, switch, and wiring for any loose connection, plus the accessory itself.

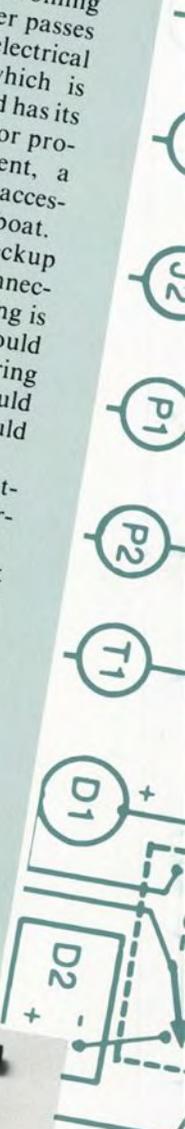
### The trailer

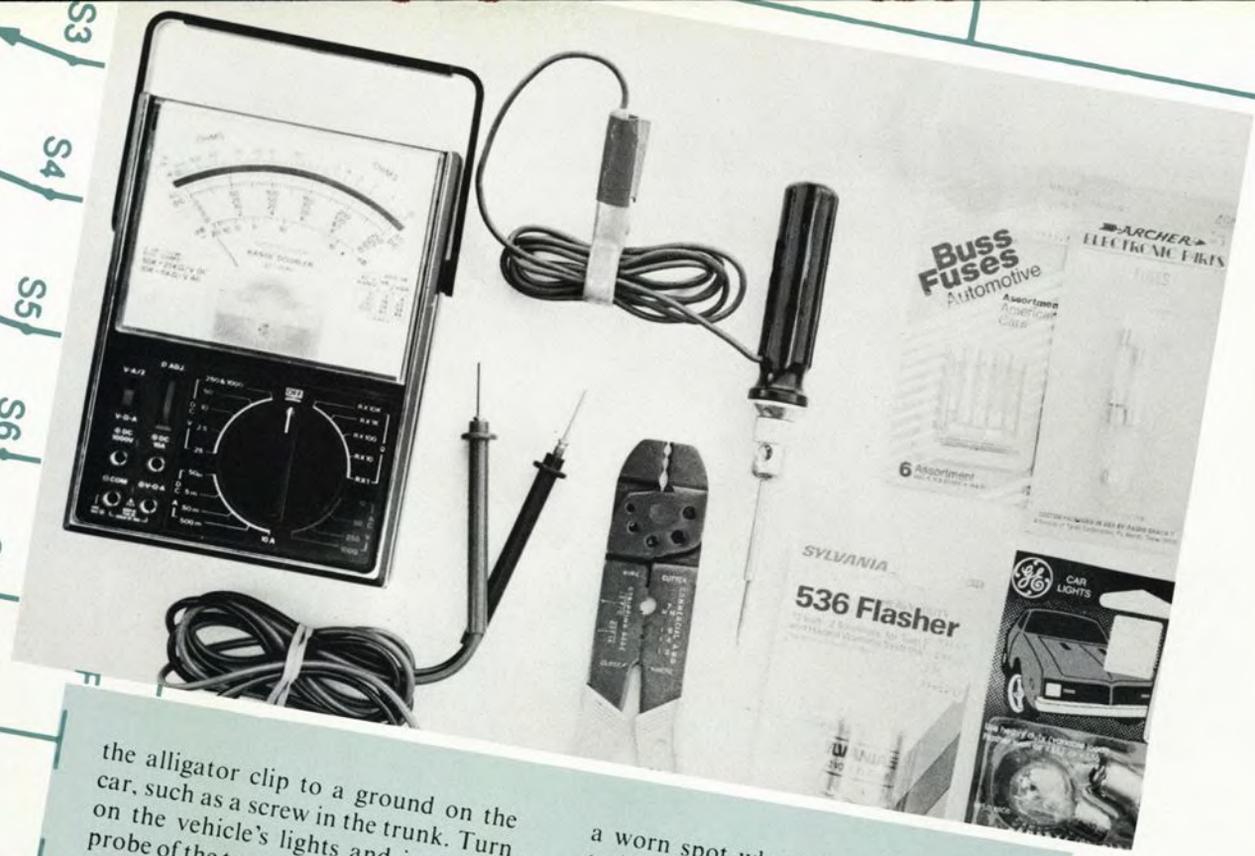
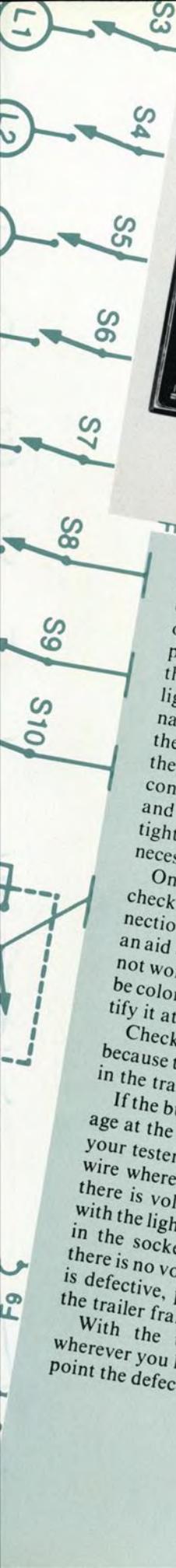
The trailer should get special attention, and may even need it before removing it from storage.

Plug the trailer lights into the tow vehicle outlet and check all lights and functions. If any does not operate properly, the first place to check is the tow vehicle wiring harness.

Using the electrical tester, connect

**Below is a sample of crimp-on terminals for use in boat wiring.**





*Pictured above are a multi-meter, an electrical tester, a multi-purpose crimping tool, and a selection of spare fuses, bulbs, and flasher.*

the alligator clip to a ground on the car, such as a screw in the trunk on the vehicle's lights and insert the probe of the tester into each opening of the wiring harness plug until the tester lights. Do the same with the turn signals, brake lights, and flasher. If any of these does not work, the problem is in the wiring to your car. Clean all the contacts, including those in the plug, and be sure each wire is fastened and tight. Replace plug-in connectors if necessary.

Once the vehicle wiring to the plug checks out, make a note of which connection serves each of the functions as an aid to tracing the function that does not work on the trailer. The wiring will be color-coded, making it easy to identify it at the back end of the trailer.

Check each bulb on the trailer, because these are the most likely to fail in the trailer lighting.

If the bulb is good, and there is voltage at the tow vehicle plug outlet, use your tester to check for voltage at the wire where it connects to the light. If there is voltage there, the problem is with the light, probably with corrosion in the socket or wire connection. If there is no voltage at the light, the wire is defective, probably where it enters the trailer frame.

With the tester, check the wire wherever you have access to it, to pinpoint the defective section. It could be

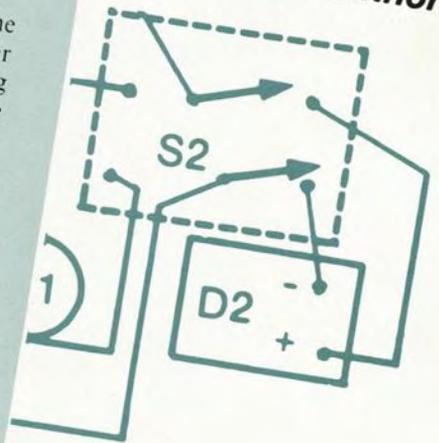
a worn spot where the wire rubs the trailer frame. When the break is found, repair it and protect it from further damage. This can be done with a grommet or with tape. I also like to use a silicone product here, like GE Silicone Rubber Sealant, which also comes in a marine grade. The sealant sets up overnight and serves as both a bushing and an insulator.

The silicone sealant is also excellent for closing any place where you wish to keep water from entering. For example, I like to use it whenever I install an instrument in the console. It seals the console to prevent water from getting behind the instrument and damaging the wood in the console.

One other place to check on the trailer is the contact with the trailer hitch. The ground wire on the wiring harness is seldom used, because the trailer hitch provides the ground connection between the hitch ball and the trailer coupler. If the ball is dirty or corroded, it is possible to lose this contact, so keep the ball and coupler clean.

Careful attention to boat and trailer wiring can eliminate those annoying problems that give you trouble on the water. Better yet, becoming familiar with your wiring through such a check can save you confusion, time, and effort if a wiring malfunction should occur later.

*photos by the author*





Last January, all waterways conservation officers participated in the Law Enforcement Division Annual In-Service Training. The intensive, week-long activities included training in new law enforcement developments and procedures, and familiarization with the latest information. Much of the training focused on Pennsylvania's new drunk boat operator law. The work included briefings and demonstrations by the Maryland Marine Police, who have been enforcing that state's drunk boat operator law for some time. Other training included subjects such as conservation, CPR, public relations, and fish law enforcement.

## The LAW and YOU

by Perry D. Heath

**Q: Our local volunteer fire company has a boat for search and rescue operations and also for use in the evacuation of people and property during periods of high water. Must we purchase a registration for this boat?**

A: No. Boat registration requirements do not apply to boats owned by quasi-public organizations such as volunteer fire departments and river rescue units and used exclusively in the performance of their work in furthering safety and search rescue on the water.

**Q. I own a canoe for which I have not purchased a motor, but I intend to do so. May I purchase a boat registration even though I do not have a motor?**

A: Yes. Watercraft other than motorboats may be registered.

**Q: I loan my boat to a fishing friend. Can I purchase a duplicate certificate of registration for him to carry on board while he is operating the boat?**

A: Yes. Duplicate certificates of registration may be obtained from the Fish Commission. These certificates may be obtained by completing Form 732, and the cost is \$1. Contact Boat Registration Section, Pennsylvania Fish Commission, P.O. Box 1852, Harrisburg, PA 17105.

**Q: My boat has a double bottom that is not sealed to the hull. Do I need a fire extinguisher?**

A: Yes.

**Q: Our local boat club wants to conduct a water ski show for the lake cottage owners. Do we need a permit?**

A: Yes. A special marine permit is required. Applications may be obtained from your district waterways conservation officer.

*Perry D. Heath is deputy chief of the Commission Law Enforcement Division.*

Coming Up in

# BOAT

Pennsylvania

- **May/June.** Powerboaters won't want to miss the specifics in an article on cruising the Delaware River.
- **May/June.** "Buy that Family Boat" is an expert's advice on how to manage this crucial choice. Anyone thinking of making this kind of investment could find this information helpful.
- **Every month.** Lively information, important safety details, and entertaining ideas highlight *Boat Pennsylvania's* regular columns. Don't miss a thing by reading 'em all in every issue!

## Calendar

### April

**6-7** Canoe race, triathlon, Penns Creek. Penns Valley Park and Recreation Association, Main Street, Millheim, PA 16854. Telephone: 814-349-5327.

**21, 27** Sailboat races, Marsh Creek State Park Lake. Marsh Creek Sailing Club, c/o Graham S. Thompson, 97 Waterloo Avenue, Berwyn, PA 19312 (various dates through October 20).

**26-28** Water Rescue Instructor Training, open enrollment, Phase II. Pennsylvania Fish Commission, Boating Education Section, 3532 Walnut Street, Harrisburg, PA 17109. Telephone: 717-657-4540.

### May

**3-5** Water Rescue Instructor Training, open enrollment, Phase II. See April 26-28 listing.

To have your organization's activities considered to appear in *Boat Pennsylvania's* "Calendar" column, send the information to us at least three months before the date of the activity. For example, if your group's event occurs in June, we must have the information in March. Send items to: The Editor, *Boat Pennsylvania* Calendar, P.O. Box 1673, Harrisburg, PA 17105-1673.



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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Gus Neuss, Jr. (*sailing*)  
Leann R. Diehl (*kayaking*)  
Ed Rogowski, Jr. (*cruising*)  
John Wiediger (*DER Bureau of State Parks*)

**Fish Commission Officers Become Film Stars**

Several Pennsylvania Fish Commission waterways conservation officers were the stars of a film recently shot at Indian Lake in Somerset County. The film, entitled, "Alcohol Awareness," is being produced by the National Draeger Corporation and will be distributed nationwide to watercraft law enforcement officers to help them recognize and apprehend intoxicated boat operators.

"The Commission was very pleased to play a role in the production of this film," said Gene Spurl, the Commission's Bureau of Waterways Assistant Executive Director. He noted that statistics conclusively show that operating a boat while intoxicated is without a doubt a matter of life and death. Last year, nine Pennsylvanians lost their lives in accidents that were alcohol-related, "and that is nine lives too many," said Spurl.

Joe Greene, the Commission's boating accident investigator, also noted that while most boating fatalities occur in the spring and summer, "we always seem to lose a few late-season boaters. Mixing alcohol and cold water is a deadly combination," said Greene.

"The film is slated to be released soon and will be used as a training tool for conservation officers faced with the difficult task of keeping drunk boaters off the nation's waterways," Spurl continued. "If it results in the saving of even one person's life, then the Commission's efforts were well worth it."

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# Guidelines in Planning a Float Trip

by  
Virgil Chambers

**T**he recreational sport of canoeing, particularly on rivers and streams, is undergoing a tremendous growth in popularity. Still, the canoe, rich in history and tradition, is a versatile craft that can be decidedly less than stable when handled or loaded improperly.

Successful paddling, particularly on moving water, requires a delicate balance of coordination and dexterity. No written words can properly prepare an individual to undertake the sport; it requires skills that can only be obtained through practice.

There is specific planning that must be taken seriously by paddlers in preparing for a float trip. These suggested guidelines can give the paddler an insight into what specifically is to be considered before attempting a cruise on the river.

## Leader's preparedness, responsibility

1. Know the river or stream to be paddled. River guide booklets and topography maps are valuable references in trip planning. Know the difficult parts of the trip and the location of any low-head dams. Be aware of possible changes in the river's level. One may want to plan alternatives in case the stream is too high or too low.
2. Set up locations for put-in and take-out along with a possible lunch break stop. Consider time and distance. Arrange for shuttle.
3. Participants. Limit the size of the group to a number the leader can comfortably control. Designated group leaders should be experienced paddlers.

Decisions on the participation of inexperienced boaters should be based on total group strength. Remember the welfare of the group is the major responsibility, and a balance of experienced paddlers with the less experienced will make for a more enjoyable trip.

4. Equipment. Plan so that all necessary group equipment is present on the trip.
5. Float plan. If the trip is into a wilderness area, or for an extended period, plans should be filed with the appropriate authorities (Pennsylvania Fish Commission) or left with someone who will contact them after a certain time. The establishment of a late-return phone number can save time and worry for everyone involved.

## Participant's preparedness, responsibility

1. Be a competent swimmer with the ability to handle oneself underwater and in moving water.
2. Be certain to have a properly fitting personal flotation device (PFD), and **WEAR IT.**
3. Be suitably equipped.
4. Keep craft under control. Control must be good enough at all times to stop or reach shore before reaching any danger. Know one's boating ability. Do not enter a rapid unless reasonably sure one can safely navigate it or swim the entire rapid in the event of a capsizing.
5. Be sure to keep an appropriate distance between canoes (distance will vary depending on water conditions; a good general rule of thumb is keep the canoe behind in view). Never get ahead of the assigned lead canoe or behind the assigned sweep canoe. Both lead and sweep positions should be held by experienced paddlers with knowledge of the water.
6. Keep a lookout for river hazards and avoid them.

## Equipment preparedness

1. Personal flotation devices (life jackets). One for each person. They must be worn at all times when on the water.
2. The proper craft. Be sure the boat is in good repair before starting a trip. It may be wise to carry appropriate repair materials: gray duct tape, rubber hammer, sharp knife, etc. Respect the craft's capacity and know how this capacity is affected in moving water situations.
3. Adequately sized paddles. Carry spares.
4. At least 60 feet of rescue line. Throw-line rescue bags are ideal.
5. Bailer and sponge for removing excess water in the craft.
6. Well-equipped first aid kit in a waterproof floating container (check an appropriate source for a list of first aid supplies).
7. Whistle or other hailing device.
8. Proper clothing (sneakers, outer garments according to weather).

## Other Equipment

Depending on personal needs, time of the year, length of the trip, and expected weather conditions.

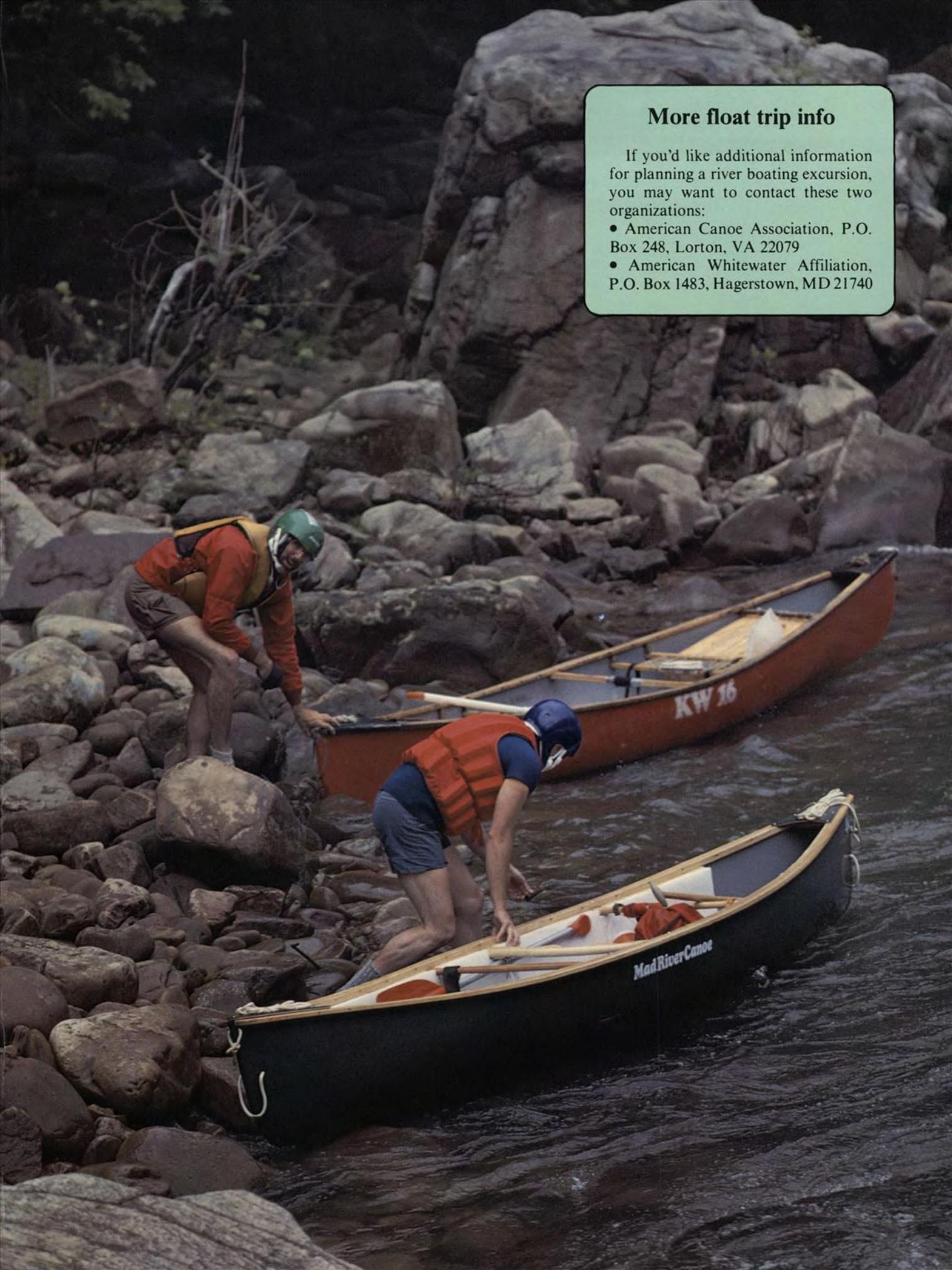
- Wet suit (if applicable)
- Spray skirt (decked boats)
- Float bags (decked boats)
- 15-foot painter lines (canoes)
- Glasses strap
- Extra glasses
- Sunglasses
- Sunscreens
- Knee pads
- Helmet (for class III water or above)
- Sun hat or wool stocking cap
- Block and tackle (optional)
- Matches or other fire starting devices in a waterproof container
- Waterproof watch
- Canteen of water or water purifier
- Camera and film (in waterproof container)
- Change of clothing in heavy-duty waterproof bag
- Insect repellent
- Garbage bag
- Flashlight (extra batteries)
- Ice chest with food
- Fishing equipment (optional)

*Virgil Chambers is chief of the Fish Commission Bureau of Waterways Boating Education Section. He also serves as chairman of the Boat Pennsylvania Editorial Advisory Committee.*

## More float trip info

If you'd like additional information for planning a river boating excursion, you may want to contact these two organizations:

- American Canoe Association, P.O. Box 248, Lorton, VA 22079
- American Whitewater Affiliation, P.O. Box 1483, Hagerstown, MD 21740





# An Introduction

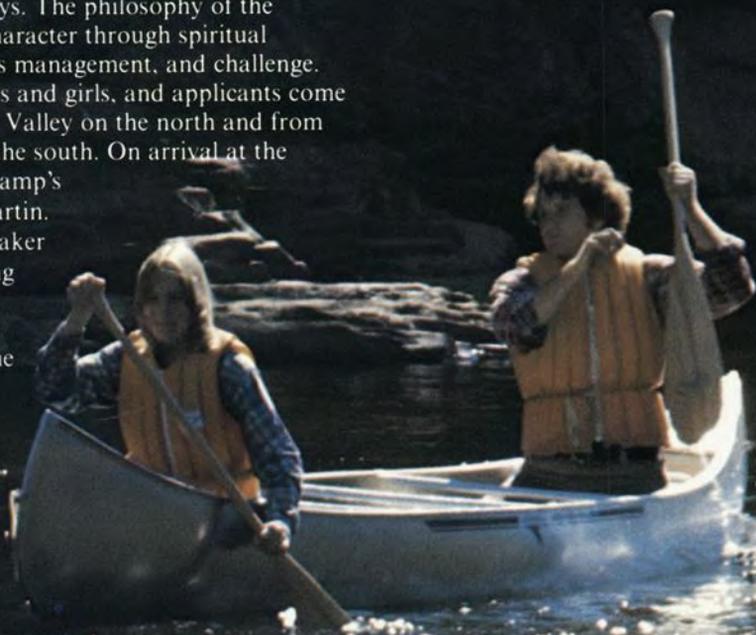


# to Whitewater

*by Brent Peters*

**J**umonville Whitewater Camp was created four years ago as a result of responses from the youth participating in the Adventure Camp sponsored by the same group. The Adventure Camp, offering two days each of caving, rock climbing, and whitewater paddling, was enough to stimulate a greater interest in whitewater for these young boys. The philosophy of the whitewater camp is to build character through spiritual growth, group dynamics, stress management, and challenge.

The program is open to boys and girls, and applicants come from Erie to the Susquehanna Valley on the north and from Pittsburgh to Philadelphia in the south. On arrival at the training center they meet the camp's "dean," Charles "Smokey" Martin. Smokey is a well-traveled kayaker who is both a certified paddling instructor and knowledgeable youth counselor. He serves as program coordinator and is the camp's primary instructor.





## Jumping right in

As quickly as the students are registered, the instructional program begins. The new arrivals are first introduced to their equipment, beginning with the tools of safety.

Training begins in the camp's swimming pool where the students learn to select and fit appropriate PFDs and helmets. Into the water they go to "get the feel" of their new equipment. Session one affords the instructors an opportunity to check the individual students' swimming skills and comfort in the water. It is far better to discover apprehension in the confines of the quiet, clear waters of the pool than in the rolling river currents.

The Fish Commission allows the students to explore their abilities to move about and float in the security of their PFDs. They quickly learn how to get into them while in deep water. This task is more difficult than it appears. The value of the flotation supplied by the PFD is reinforced as the class is taken through a cold-water survival session, in which they practice the H.E.L.P. (Heat escape lessening posture) survival position with and without a PFD.

Then, just as the students begin to feel comfortable in the still water, the instructors begin to create a choppy sea with one-foot waves leaping onto the pool deck. A good training chop is produced by the strenuous rocking of the aluminum canoe from bow to stern.

After becoming comfortable in their safety gear, students begin to learn about the crafts they will be using during the week — the standard recreational canoe, the rubber raft (4-man), and the kayak. How to get in and how to empty a swamped craft lead to exits and re-entry skills.

## Pool paddling

After a dinner break, it's back to the pool. Basic paddling is the subject now. Practice begins from the pool deck and progresses to the boats afloat on the water. Forward, backward, turn, stop, forward, backward, turn, stop. "Dig," "sweep," and "draw" are the shouts heard all about the pool.

As the sun sets it's "shower up and report to the lodge" for a Fish Commission water safety film. The final schooling of the day is a question-and-answer session that becomes the standard way to close each day's final session.

Next comes snack time, a nightly campfire, and finally, rack time.

Night ends quickly. Day two starts early with a formal "required" 30-minute stretch before the 7:30 breakfast call. By 8:30, it's back in the pool. Wet exits are practiced. Students are instructed in the proper techniques of reaching and throwing rescues. The session gives strong emphasis to the use of the throw bag, probably the most versatile rescue tool the boater can find.

Also crowded into the busy morning session is the Eskimo rescue. This technique allows the kayak paddler to right a craft and resume training skills without time lost for emptying the kayak after a wet exit. On the river it prevents the need to chase and recover a swamped craft. This work is also a two-fold confidence builder as the inverted, submerged beginner learns to trust his own ability to remain calm and wait for rescue, and the alertness and ability of his paddling companions to come to his aid.

It is important for the group to develop trust in one another early. In this procedure, the turned kayaker stays in

the boat and moves his arm back and forth along the sides of the kayak, feeling for an assisting boat. The arm movement is a search for the tip of the bow of the rescue boat. The submerged kayaker makes contact, grabs the bow tip, and presses down with an accompanying hip snap that brings the victim upright and back to fresh air. The snap of the hips is practiced with the boaters in their boats as they sit on the lawn near the pool, then in the water at the pool's edge.

The students simply grab the pool gutter, press, and snap to the upright position. The novice paddlers pop up just to do it again . . . and again. Their confidence begins to show as they move about the pool freely. Some capsizing is by design; others are not. But more and more, exits are replaced with paddlers hanging in there, waving their arms skyward until a classmate comes to the rescue.

## Down by the river side

At midday, Smokey says it is time to go meet the river. He has already scouted a section of water that permits some flat-water work and an introduction to eddies, eddy lines, eddy turns, and peel-outs.

With lunch completed and loading orders carried out, the noisy bus ride to Ohiopyle State Park heightens the excitement of the paddling school. On arrival at the river location, all the skills of the morning session are reviewed. The Eskimo rescue is employed early and the students make the transition from the clear, pool water to the gentle section of the Yough. The afternoon is filled with paddling and safety drills as preparation for the moving water of the Yough's famous Loop.

The students are back at the pool for an evening session, reviewing the techniques of the four-paddler raft crew. Smokey uses this time to select his crew leaders. This choice is done in preparation for the activity of day three: A group rafting run down the Lower Yough. Smokey and Larry Beatty will lead the expedition and serve as rescue boats.

Another night quickly comes and goes. It appears, however, that almost everyone in school has come up with a whole new set of muscles. They were not that tight nor did they hurt in those places yesterday morning. Many minutes of moaning and groaning precede breakfast.

Another bus ride to the state park in Ohiopyle is as noisy as the last. At the put-in site, Smokey instructs the students to check the water level and temperature. Safety equipment is checked and crew assignments are made. The class stops at the launch area long enough to review the trip plan and view a safety lesson produced by Ohiopyle State Park. The lesson is a video tape viewed on a TV screen right at the launch site. Clad in helmets and PFDs, the crews secure a throw bag to each raft and the two kayaks. All gear is carried down the ramp to the river. All aboard.

In the quiet pool of the launch area, students again review their paddling techniques under the shouts of their crew leaders. Heartbeats quicken as the paddlers see and hear the roaring waterfall just above the raft put-in area. The crews are busy spinning their rafts to the right, then to the left. "Back on the right, forward left," echoes through the river canyon. Smokey signals "go." "Go," repeat the the three crew leaders. The rafts do not appear to be

under much control as they spin and weave through Entrance Rapid.

The water level is low, but the crews are challenged to keep the bow first and work hard to center in on those down-river sections. They negotiate a rock garden as they enter Cucumber Rapid. As they paddle for the main chute, they see themselves as the entertainment of a large gathering of spectators along river left. "Sure hope we're lookin' good. Keep right! Dig! Dig! All ahead."

The river seems to swell as the rafts gain speed. The bow paddlers are showered as the raft slams the waiting waves. "What fun!" The wide eddy below the rapid allows the class time to regroup and hear their instructions for the next run. The floating school works its way through one rapid after another with several eddy stops along the way. There are ample quiet holes below each major challenge on the section of the beautiful Yough. An instructor could never design a better teaching lab.

### An "exam"

The caravan reaches the big eddy just below Swimmer's Rapid and joins many other excited rafters who have pulled in to catch their breath or to walk back up river to leap into the swift waters for a thrilling float through the current. "Swimmer's Rapid" proves to be the perfect spot to give the young class its "exam" on how properly to ride out the strong river currents. Feet up and feet first is the only way to go.

Fully refreshed, the rafters board their crafts and push off on the final leg of a great day of learning. They wind down river ready to challenge anything ahead. Smokey tells them to prepare for "Double Hydraulic" and "River's End." They reach the take-out point still filled with excitement. The take-out begins the final hands-on lesson of the already highly educational outing: How to climb the steep slope leading from the river to the shuttle bus parking lot with a 12-foot raft in hand. The lesson is imprinted far deeper than it possibly could be when interpreted from the page of any paddling book.

On Thursday the class is eager to get on the river again. Several of yesterday's rafters think they want to try a run in kayaks. Smokey puts them through a rigorous test and one-by-one gives the okay to six paddlers. A low water level makes this a safe venture during this day. The recorded level is below 2.0. Two instructors escort each student one-by-one through the six rapids of the Loop.

Two rafts are prepared for the other students. They eddy hop from rapid to rapid, waiting below each to shout encouragement to the trailing kayaks.

### Wrap-up

Friday is the wrap-up day for the Jumonville whitewater camp. It is time to dry out all the equipment, but by now the students have developed a case of "whitewater fever" and want more river time. Smokey gives in. One final run. Every new day on the river offers new learning opportunity. This day the students will apply their rescue skills as they discover a raft pinned on the rocks at mid-river. The renters of the craft are safe, but the raft is like new skin to the rocks in a very swift current. Smokey is unable to free it in a solo effort, but with the aid of three throw lines and the backs of three of our staff and five students, the raft is tugged and twisted from one end until it pops out and is quickly carried through the rapid's main chute. Pulled to the river bank by the lines of the Jumonville school group, the raft was recovered and its crew could set out to finish the day on the river.

Friday night's campfire for the whitewater camp was high atop the mountain as the students and staff sat under the stars, recounting all that the week had given them. Tomorrow they would leave the mountain, but they will take with them experiences, knowledge, and memories that no one can ever take away from them. They will return to their homes throughout the Commonwealth with a storehouse of knowledge and skills they learned firsthand. They return home safer boaters. Mission accomplished. And you can bet on it — many will return to the whitewaters again. Mission again accomplished.

*Brent Peters is an instructor trainer for the Fish Commission's "Implementing Boating" safety program.*

*The Pennsylvania Fish Commission's "Implementing Boating: A Practical Approach to Instructional Methods" is a small-craft safety program that has for three years been vital to Mr. Larry Beatty, executive director of the Jumonville Training Center, a retreat facility of the United Methodist Church. The Jumonville Training Center's Whitewater Camp, which uses the method, has proven to be a very successful approach to introducing the excitement of whitewater sport to youngsters.*



**Practice in the whitewater camp includes lessons in paddling and a variety of safety subjects. Students leave with know-how in how to think "safety."**

# Launch Ramp Etiquette



*by Kim D. Pritts*

"It's Saturday morning, the weather is great, and it seems that every boater in the neighborhood picked this ramp to launch his boat." This feeling underscores a real problem at many access areas. In addition to the crowding conditions, the situation can be aggravated by inconsiderate or unskilled boaters at the launch sites. Many times a boater forgets about the next guy and ties up the launch ramp longer than necessary.

Launching and retrieving a boat is often the most frustrating part of the sport. Boat launches are bottlenecks crowding many boaters into a small area often with limited facilities. This crowding is compounded by some boaters attempting to launch while others are trying to load. A little common sense and courtesy can go a long way toward easing the tension under these crowded conditions.

Boaters and crews should be properly prepared for quick, safe, efficient launching and retrieving at public launch ramps. Here are a few tips.

## **Boat and trailer preparation**

You will want to prepare your boat for launching before backing down the ramp. Stop away from the ramp and transfer your gear from your car to your boat. Make sure you have all your safety equipment. Take off any tie-downs and put the plug in your boat. Unplug the electrical connection between the vehicle and the trailer.

Check the launch site before backing down. Check the degree of slope, water depth, and the surface of the ramp to be sure you will have sufficient traction. If others are ahead of you at the ramp, observe several launchings to judge better how your rig will handle.

Make sure the person helping you launch knows exactly what he is supposed to do. When your boat is

ready to launch, back down onto the ramp. When you get on the ramp you should simply launch your boat and then move off the ramp.

Don't leave your boat, blocking the ramp while you park your car. Have your crew member tie it off away from the ramp access. There is nothing more frustrating than backing down to a launch area and finding an unattended boat bobbing around directly in front of the ramp. Be considerate of those trying to retrieve their boats, too. Don't "box" them in with your boat if their trailer is next on the ramp, again adding unnecessary delays.

## **Backing and maneuvering**

A Saturday morning at a public launch area is the wrong time and wrong place to test and practice your skills at backing down a trailer. There is a certain amount of skill needed, and many boater don't get enough practice, embarrassing themselves in



Kim Pritts

front of others. If you have trouble backing your boat, practice in a non-congested area such as an empty parking lot, field, or your own driveway.

Set up some type of course requiring various maneuvers. Very few ramps provide enough room for a straight-in shot, and with crowding you will have to develop backing skills. There are no secrets to effective, fast trailering skills, but they take practice. Develop a hand/eye coordination and use whatever technique works best for you. Some find it useful to grasp the steering wheel at the bottom. Thus, when moving the hand to the right, the trailer will back to the right. I concentrate my attention on the back end of the trailer and react to what is happening there. Trying to "think" it through . . . "If I turn the steering wheel this way, the trailer will go that way," doesn't work for me. With a little practice you will develop this

coordination. Don't forget to try an empty trailer, too. Looking out over the trunk may put the trailer out of sight. If this is the case, I find it easier to take directions from my crew than using the side mirrors. Again, it is what works best for you that counts.

Practice until you can keep the trailer confined to one lane. Taking up two lanes at a multiple-lane ramp while others are waiting to use the ramp is neither efficient nor courteous.

### Vehicle parking

Park your car in a designated area away from the ramp. A great deal of space is needed for turning and backing in the immediate ramp area. Park well clear of this spot. Don't park directly in front of the ramp access and figure other boaters will maneuver around you. It is both inconsiderate and illegal.

Proper launch ramp etiquette is a

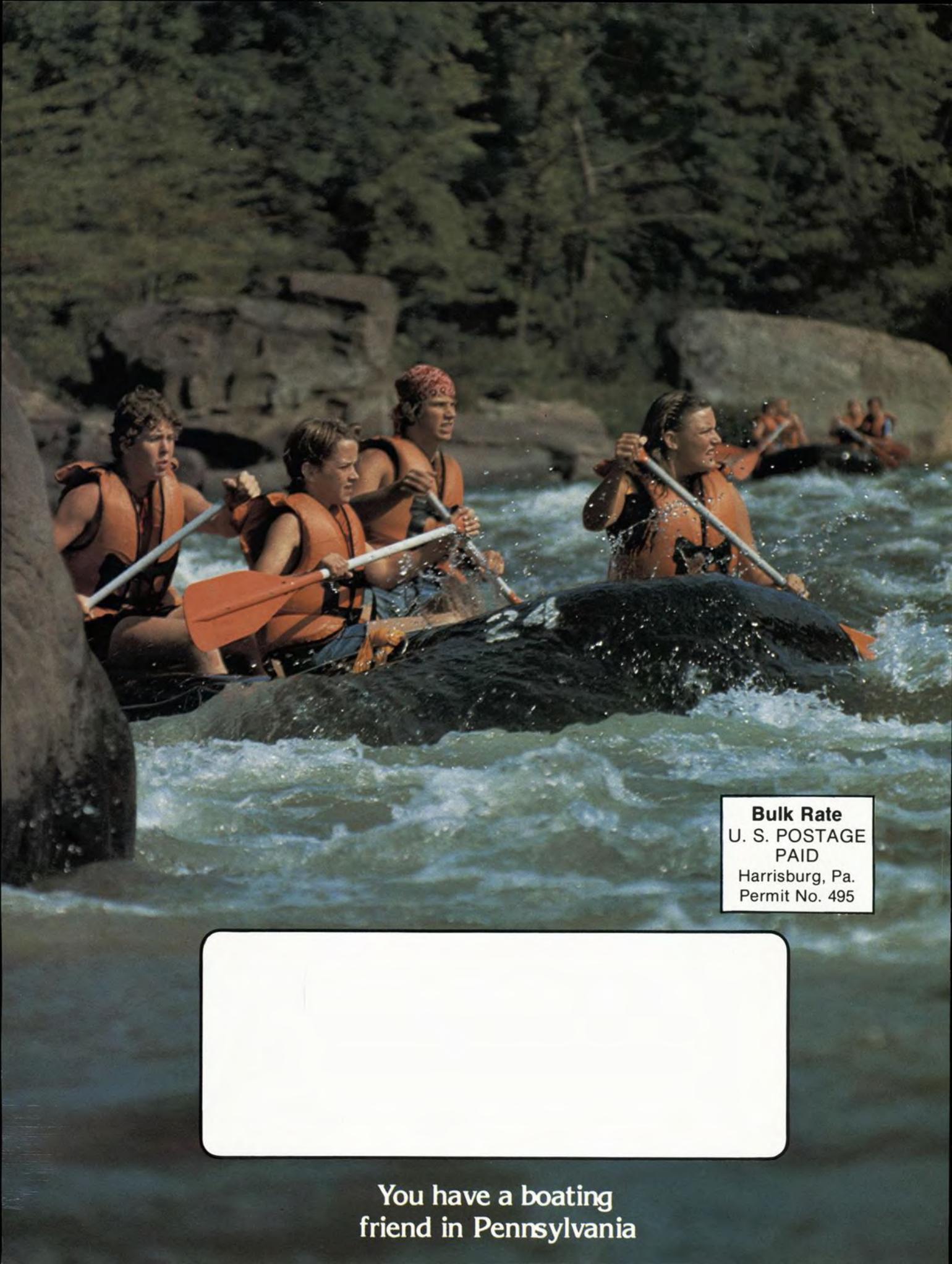
mixture of skill, courtesy, and common sense. When practiced by everyone, it can make a pleasant outing even more enjoyable.



*Kim D. Pritts is the waterways conservation officer in northern Lancaster County.*

### Trailering Publication

The Fish Commission has available a pamphlet called, *Boat Trailering*, which details information on trailer selection, equipment, maintenance, launching and retrieving, registration, and safety. For a free copy, with requests send a self-addressed, stamped business-sized envelope. Contact: Publications Section, Pennsylvania Fish Commission, P.O. Box 1673, Harrisburg, PA 17105-1673.



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