

BOAT

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VIEWPOINT

Lake Resources and the Future



John Simmons
Acting Director
Bureau of Boating
Pennsylvania Fish Commission

Pennsylvania is blessed with many lakes. The 8,300-acre Lake Raystown is our largest lake, but the vast majority are much smaller. The Pocono Mountains area is particularly renowned for its numerous small lakes. Around the turn of the century, people began to see lakes as places where they could go to get away from the hustle and bustle of city life. Summer communities sprung up around Conneaut Lake, Harveys Lake and Eagles Mere Lake. Cottages with few amenities were built and residents contented themselves sitting on screened back porches, contemplating their peaceful surroundings. In the evening it was not uncommon for lovers young and old alike to row around the lake in their wooden Adirondack boats to talk with each other and their neighbors and to enjoy the peacefulness that water brings to all of us.

In the early years, much of the access to these Chautauqua-like communities was by rail. As better roads were built, more and more people began to travel the long distances to share in the tranquility of lake communities. Additional cottages were built and soon many lakes were surrounded by dwellings. The cottages were so close that access to the lake by a non-property owner could only be gained across someone's lawn. The houses were also becoming year-round residences not just summer retreats.

Today, developers are building on lands far removed from the shoreline but through acquisition of lakeshore property they ensure access to even more people. Lake communities are not what they used to be.

Mass-produced boats and outboard engines have compounded the problem. Some 25 years ago, few could afford or wanted a motor larger than 25hp. Today, outboards are produced up to 235hp and the average of all motors sold is 60hp. Speed seems to be the ideal for many people. They no longer go to the lake to escape from city life, but rather to vent their frustrations through the feelings of power, authority and control and that they get from their boats.

This desire to unwind is understandable, but the effect it has on many of our lakes is that the idyllic situation of time gone by can no longer be attained. Most people who live by lakes have grown to accept this idea as fact. Big, fast boats are here to stay.

When boat operation becomes hazardous to users, however, something must be done to control boating. Every lake has its cowboy or its outsider who seems to disregard all courtesy and good boatsmanship. He operates his boat early in the morning or late at night. He comes too close to fishermen, docks and drifting boats. He roars up the lake and back—and has another beer. These kinds of operators make it difficult for the others who want to use the lake resource sensibly.

What usually happens next is a call for more law enforcement and regulation, such as restrictions on horsepower, speed, hours of operation, types of boat, age of operator and activity. Many lakes have these restrictions now. Many other similar lakes do not. Why? The people who use these lakes show consideration for others. They police themselves. They have established their own operating code of conduct and make sure that everyone observes the rules.

If you live on a development lake facing the problems of growing boating density, you can help. Join the property owners association, become active and form a safe boating committee. Establish some good rules for boating safety and courtesy and educate others of the benefits of these rules. Become aware of the problems and work toward solutions. Don't wait for a tragedy to happen. With a little effort regulation can be avoided and everyone can enjoy the sport safely.

Our lake resource is limited. It is up to all of us to protect it and to ensure its availability to future boaters.

John Simmons

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



The cover

Staff photographer Russ Gettig caught water skier Terry Miller zooming around Youghiogheny River Lake. She's having fun, all right, and that's a good point about the Yough River Lake. The waterway offers great fishing and boating potential. For a detailed look at Yough River Lake, please turn to page 29. If sailing is your thing, the articles on pages 4 and 8 may grab you. Water skiers should check out the article that begins on page 24 for a fresh perspective on a unique aspect of the sport. Paddlers picking PFDs is the point on page 26, and protecting your outboard motor prop is the gist of the feature on page 14. Lastly, for a fascinating bit of Pennsylvania history, see page 16.

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Sailing

on Lake Arthur

by Thad Bukowski

“It’s the best lake in western Pennsylvania for sailing and it may be the best in the Commonwealth.” This opinion is expressed by Roger Anderson, race chairman for the Moraine Sailing Club, about Lake Arthur, in Moraine State Park in Butler County.

“I’ve sailed Lake Michigan and it’s easy by comparison. If you learn to sail well on Lake Arthur you should be an accomplished individual at the activity anywhere,” says Anderson.

Anderson explained that Lake Arthur’s winds change so quickly and that one must learn to adapt just as readily to a variety of currents if he puts canvas on the water. He adds that the terrain surrounding the lake is made up of abruptly rolling hills and valleys. These features create many crosswinds, updrafts and downdrafts, which can become frustrating to a sailor. The west-to-east position of the lake and a broad western valley beyond helps to invite the wind.

“But that’s where the fun lies,” says Moraine Sailing Club former Commodore Martin Newcomer of Wexford, PA, who delights in such variable situations. He tries to get out on Lake Arthur as a retiree at least three times a week.

“In sailing, it’s you and the wind and the desire to see if you can do it, if you can control the situation in going where you want to go. Lake Arthur presents you with many interesting challenges to do better, to learn. If you’re racing you’re also challenged by asking yourself, ‘Can I do it faster than the next guy.’”

Moraine hosts many sailing races and regattas. Though the club under present Commodore Fred Stewart of Zelienople, PA, has 50 members interested in racing, it also has 80 more who are interested in casual sailing and social activities, which are centered at a great cove, designated for sailing activity at Watts Bay along Moraine’s north shore.

Watts Bay’s launch ramps, pullups, parking space, shelters and picnic facilities are ideal and draw hundreds, perhaps thousands, to the grassy and shady shores every summer Saturday and Sunday. Independent public sailing is becoming more prevalent here and welcomed by the club.





Thad Bukowski



Beginning in early May, five races each during the past year were held on May 3, 9 and 16. Two races each occurred May 23 and 30 and June 6. On June 7, Moraine Sailing Club conducted a Learn to Sail Day, helping the newcomers to the sport, while on June 20 two races were held in conjunction with a Learn to Race event open to the public.

Late in 1987 the north shore Watts Bay area was extended with a special section just adjacent at Barber Point, designated for the sudden rise in the number of wind surfers converging at Lake Arthur.

A Fleet 77 Day Sailor Club, belonging to the Day Sailor's Association, is also active with members from as far as Pittsburgh to Wellsburg, West Virginia.

Club member Henry Rithner says that he comes to Lake Arthur on almost every weekend from West Virginia because "sailing is better organized at Lake Arthur than anywhere else I know, the physical conditions are the best I've found anywhere, the people are unusually friendly and the restrooms are the cleanest anywhere."

The north shore Watts Bay section is located along the widest lake span and has the best winds, sailors report. They include owners of a Flying Scot fleet of large

craft, a Sunfish fleet, and the wind surfers.

Two starting times are held for all races with a club pontoon boat beginning all activity and race stewards well-organized to handle events. Sunfish and day sailors go out first and are followed later by high-performance Flying Scots and Fireballs. All groups race for points and trophies in every division, highlighted by a year-end banquet at which time trophies are presented. Sailing continues on the lake into October and is in such favor because horsepower limits on the lake range under 10.

Cindy Magill, secretary to Mitch Dickerson, Moraine State Park superintendent, reports that sailboat rentals are also available at the Crescent Bay area along the south shore, where pontoon boats may also be rented.

If you bring your own boat, a \$5 park launching permit is required if it is not motorized, but not needed if a Pennsylvania boat registration has previously been obtained. Park permits are available at the main headquarters building along the south shore at the entrance to the parks' Pleasant Valley Day Use Area.

The park opens at 8 a.m. and closes at sunset, except that fishing and boating may continue for 24 hours if no camping gear is evident in the parking accesses.

A special marina for private boats is also located along the north shore and is

open from 6 a.m. to 11 p.m. The park office manages a 102-site dry mooring area for sailboats and sailboat racks for 18 additional boats at Watts Bay. Docking facilities, offshore mooring, dry mooring and canoe sailboard racks are also available at the Davis Hollow Marina, operated by a concessionaire. The waiting list for keeping sailboats at the park is unusually long.

Sailing may be tried anywhere along the many lake sections except near swimming or propagation areas. Upwards of 500 to 700 boats of all types may be on the lake at one time on a busy weekend day or holiday.

Two causeways crossing parts of the lake interfere with some areas that sailors might want to explore, because masts might be too high for clearance. The Rt. 528 bridge opening onto three large eastern bays has a 29-foot clearance along the north side and 35 feet on the south side. The Rt. 422 bridge, which intercepts Portersville Bay, has 9 feet of clearance along the east and 20 feet on the west.

Nevertheless, the lake waters extend for 3,225 acres and constantly shows colorful sailboats plying its waves and tacking against unusual wind currents in a huge array of picturesque motion.

The park around the lake is a recreation seeker's delight with a three-tiered south shore day use area for



picnicking, fishing and swimming in addition to sailing. Both shores have excellent and extensive swimming beaches and change houses and the north shore also has an outstanding macadam bicycle trail, which extends over 7 miles. Bicycle rentals are readily available. If you want to put a sailboat in along the south shore day use area, extensive facilities are also located at nearby Bear Run boat access, which also has extensive trailer parking facilities.

Moraine State Park's 15,000 acres of recreation area are used perhaps more than any other similar park in the Commonwealth. A busy weekend brings over 25,000 folks with summer weekday activity numbering 10,000 daily. The 1987 Memorial Day crowd, for instance, registered in at 64,000!

Sometimes crowds are so great on holidays such as July 4 and Labor Day that the park has to close its gates. Calling park headquarters at 412-368-8811 might be advisable for information if you are traveling from a long distance.

The public is indebted to the Western Pennsylvania Conservancy and Dr. Maurice Goddard of the former Pennsylvania Department of Forests and Waters, whose

combined and untiring efforts during Project 70 and Project 500 days made both the park and the lake feasible. Moraine State Park and its lake were created after reclaiming a vast strip mine, which polluted waters of this spot and Slippery Rock just downstream of Muddy Creek, which flows into and forms Lake Arthur.

Slippery Rocks' companion waters are widely used for whitewater canoeing and excellent trout and smallmouth bass fishing.

As its brochure states, "Moraine State Park is an outstanding example of reclaimed land that had once been desecrated by man." Deep mines were sealed, strip mines backfilled and graded and 422 gas and oil wells were plugged before its creation under the determination of Dr. Goddard.

Dedicated on May 23, 1970, Moraine State Park includes the 3,225-acre lake, which not only has outstanding sailing but produces the greatest number of citation largemouth bass in the state. The 15,000-acre park has a number of interesting nature trails and an Arboretum Trail that leads to the Jennings Nature Preserve, off Rt. 528. Facilities and fishing piers are located for the handicapped throughout Moraine State Park.

More than 1,200 picnic tables are available throughout the park with picnic pavilions and charcoal grills located strategically. The Marina Restaurant along the north shore offers dining with a scenic view of Lake Arthur and its many sailboats. Lifeguards man beaches along both shores from 11 a.m. to 7 p.m. during the summer from the Memorial Day weekend to Labor Day.

Family camping facilities are not available within the park, but nearby campgrounds surround the vast recreation area. These include:

- Lake Arthur Family Campground, R.D. #1, Box 273, Slippery Rock, PA 16057. Phone: 412-794-9901.
- Cooper's Lake Campground, R.D. #2, Slippery Rock, PA 16057. Phone: 412-368-8710.
- Campers Paradise, R.D. #4, Box 473, New Castle, PA 16101. Phone: 412-368-3766.
- Rose Point Park Campground, R.D. #4, Box 410, New Castle, PA 16101. Phone 412-924-2415.
- Bear Run Campground, R.D. #1, Portersville, PA 16051. Phone: 412-368-3564.

RED LIGHTNING



Kenneth Henning

by Paul Jenkins



I flipped the TV channels to the weather station even though I'd heard the forecast a half-dozen times that day. Scattered showers over the lake. But the question was, would they be accompanied by thunder and lightning?

I set my alarm for 5 a.m. but knew the anticipation of sailing across the lake the next day would probably make sleeping hard. Before dawn the next morning I was jarred awake by the rumble of a far-off storm. I rolled out of bed and groped my way toward the bathroom, but as I passed the kitchen—which faces the lake—I froze in my tracks. The sky to the north lit up with a flash of lightning that extended for miles along the horizon. For the next hour I gathered my gear in preparation for a lake cruise that might be canceled before it got started.

When I reached the yacht club, the first light was beginning to outline the heavy gray clouds to the east. The lightning storms had passed and conditions seemed to be improving. Dick Bayer and his grandson, Ed Mattis, greeted me at the front gate and we drove out to Dick's graceful 31-foot sailboat, *Jade*, gently tugging at its mooring near the east breakwall. While loading the boat we talked about the uncertain weather and wondered if the crew of the other boat that was sailing with us would show up.

"Captain Bob is a very experienced skipper," Bayer said, "and I have a lot of faith in his judgment."

Bob's boat is the *Vega*, a sturdy 36-foot catch. "If she doesn't sail, neither do we," Bayer said. The crew of the *Vega* did show up, and after a quick introduction and some talk about the latest weather forecast, we decided to start out. We would keep a close watch on the weather and maintain radio contact.

After leaving the bay and rounding Gull Point we buffeted southwest winds that produced four-foot to five-foot swells and pushed us along at over six knots. On our due north course the seas approached on the stern quarter. Our boat handled the following sea well but an occasional cresting wave would raise *Jade* high and send her rushing headlong down the other side of the wave. The boat was never in danger of broaching but the conditions were more

than enough to keep the helmsman on this toes. For several hours things remained about the same, and we made good progress even though we were sailing on a single sail, which was a self-furling genoa.



About 12 to 14 miles off the point, or about mid-lake, the sky to the west started to darken. Then something unusual happened. The marine radio shrieked with an ear-piercing squeal that lasted several seconds. The familiar voice of the Canadian Coast Guard radio announced a special weather warning. Mariners were asked to switch to channel 21 for more details. Dick was at the wheel so I dashed to adjust the radio. I turned up the volume so that it could be heard on deck and the shrill words of the announcer seemed to cut the heavy air like a knife.

"This is a severe weather warning to all shipping and especially small craft on Lake Erie," said the announcer. "Radar is indicating heavy bands of showers and dangerous lightning in central Lake Erie, just east of Conneaut, Ohio."

As I looked out at Dick I heard a faint rumble of thunder and saw a distant flash of lightning over his left shoulder to the southeast. The sight gave me an eerie feeling. It wasn't just the distant storm that bothered me, it was something I hadn't ever seen. The lightning bolts were heavy and thick, but the worst part was their color. They were bright red. We decided to reef the headsail in case the storm hit us quickly. We were in the center of the lake and past the point of no return. All we could do was get ready for the blow that was bound to come.

About a half-hour later another weather alert came over channel 16. This time we didn't bother changing channels. We could see a row of black clouds heading at us from the west. *Vega*, which had been visible a few miles to the north, had vanished in the haze. We were all alone, and the vale of gray mist and the dark sky were closing in quickly.

Dick asked me to take the wheel while he pulled in the last of the headsail. Before he had it in, the first gust hit and sent *Jade* rolling to starboard. I strained to hold the wheel and tried to pull her into the wind. I yelled for Dick to start the motor. Bottle-cap sized rain drops pelted the deck as the wind went from 15 to 25 mph instantly. The wind caught the tops of the waves and created a stinging spray that engulfed our boat. It was like sailing through a carwash.

I struggled to put on my raincoat but it was really a waste of time. The water was already running down my legs into my shoes. Even with our sails down, the wind was causing the boat to heel sharply to starboard. The knot meter ticked off the numbers, climbing from 6 to over 8 knots and I could hardly hear the diesel motor that was running at over half throttle beneath the cockpit floor.

I yelled to Dick for more engine speed so that we could steer into the wind. He pushed the throttle well forward as I turned the wheel all the way to the left, but nothing happened for what seemed like a very long time. Finally it headed up, and the heavy rolling motion settled into a slightly more comfortable pitching.



Red bolts of lightning flashed to the north, then to the east, and even to the south. The fast-moving squall line was all around us. All we could do was hold on and pray that one of those nasty bolts wouldn't hit our mast. Dick had mentioned that the mast was well-grounded, but another thing he said came to mind when the boat lurched and I bumped the metal backstay directly behind me. He said, "Whatever you do, don't get close to the rigging during a storm."

The rain came down in sheets and the wind blew so hard that at times it seemed to be raining sideways. In the midst of all the noise and whistling wind I felt a growing sense of security and confidence. We had a very good boat under us, and our prayer that the lightning would pass was heard. Being soaked to the skin really wasn't so bad because it was a warm day.

In about 15 or 20 minutes the wind slowed and the rain stopped as quickly as it had started. Dick had a peaceful and almost contented look on his face. He was a funny sight as he sat soaked to the skin with a drop of water dangling from the end of his nose.

"Hey, wouldn't you say the old boat held up pretty well?" Dick said with a grin.

"Yeah, I'd say so," I replied. "That was quite a storm, but what got me was that red lightning. Have you ever seen red lightning before?"

The peaceful look on Dick's face seemed to fade a little as he looked out at the storm clouds that had passed to the east.

"No, I never saw lightning like that, and for that matter, I don't care ever to see it again," he said.

Storing Your Trailer: The Proper Starting Point for Next Season

by Sal Fertitta

Retrieving your boat at the end of the season may bring a touch of melancholia, but it should not cause apprehension about the work required to prepare for winter storage. It really isn't so disagreeable a task if you do two things—think of it as preparation for the next season and follow these proven suggestions for a proper winter lay-up.

Attitude is important because the normal letdown at the end of a season makes it much too easy to let proper care slide into the beginning of the next. And that leads to trailer trouble over the winter, which in turn leads to more work and less fun the following year.

Start by thinking of your trailer as an extension of your boat, not just a storage rack, and you're bound to let some of the TLC you lavish on the former spill over to the latter. Now, having assumed the proper caring attitude, here's how you prepare the trailer for proper winter storage.

Survey

Before you pull the boat out for that final time, survey the entire trailer carefully for signs of wear or weakness. Check for flaking on galvanized coatings; for stress cracks and elongation in aluminum; and for blisters and rust on all painted surfaces. Now is the time to make structural or cosmetic repairs before the boat is hauled. If you've followed reasonable care practices over the year, you should not have momentous repairs now, yet there's always a ding or scrape that deserves attention.

Sand away any sign of rust, re-prime and repaint now. Next season, after the rigors of winter, it will be larger and harder to fix. The same is true of stress cracks; bridge these with metal supports or patches, which, depending on the size and location of the problem, should be welded or riveted in place and then painted with rust-inhibiting paint. Pay particular attention to all bolts and fittings. Check for security and signs of wear at the hull rollers (add grease if needed), winch supports, and

wherever there's a U-bolt that could loosen and slide. Keep in mind that corrosion often begins at holes drilled through the frame, so check all such openings and particularly the mounting brackets for the fenders. The general idea is to crawl all over the trailer to inspect all parts that you can't reach when the boat's in place.

Also, inspect the winch pawl, handle bolt, and cordage. Make sure the first two are not loose or worn and that the cordage is not frayed or weakened. Replace any part of the winch that is overstressed (like that spiky cable), and lightly grease the gears and the latch assembly. Before you hook up to the boat, briefly operate the winch to see if the gears rotate smoothly and to make sure that there's current if it's electric, which will lead you to check the

car battery to make sure it's properly charged and corrosion free . . . right?

Next, check the tires for visible cracks, excessive tread wear, and for proper inflation as marked on the sidewalls. Underinflation causes overheating, which accelerates tire wear and leads to eventual tread separation. Sidewall cracks are a sure sign that this is happening. Put a wrench on the wheel lugs and make sure they're tight and properly seated against the rims. Signs of wear are elongation of lug holes and damaged or stripped threads on the lug bolts—either of which requires replacement of the damaged part.

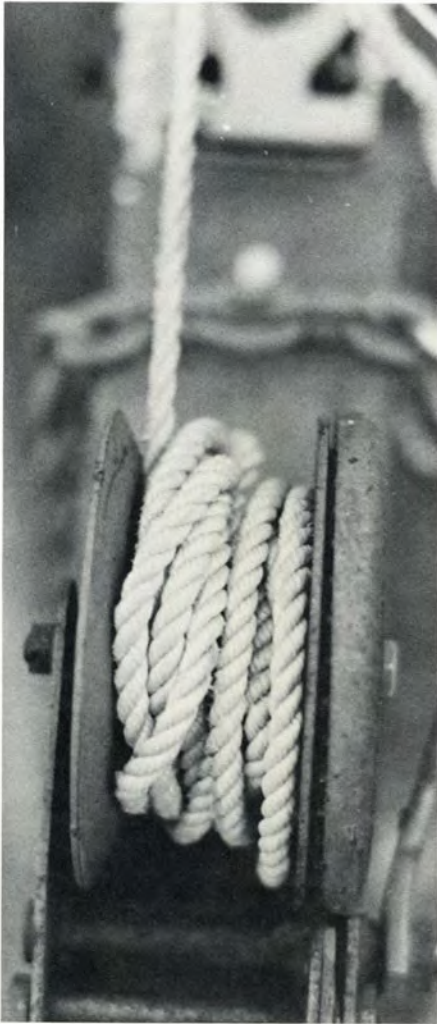
Electrical check

Give the hitch and electrical wires a routine inspection (as you always do) before you hook up, making sure the car hitch is secure, the ball is the proper size and tightly bolted, the jack and tools are on board, and the wire connector adequately mated. Then turn the lights on in every mode. If (as usually happens) one or more lamps fail to operate, try a new bulb in the socket (it's always a good idea to have a few spare bulbs on hand).

If the lamp still doesn't light, buff away corrosion on the contacts and try again. Incidentally, a pencil-shaped gritty type-writer eraser does an excellent job on mild



Rust is a trailer's constant enemy. A little preventive maintenance might have saved these boat trailer fenders. If your trailer is painted, be sure to touch up the paint job as needed. This could add years to the life of your trailer.



The snarled cordage in this winch should be cleared and rewound during storage preparations.

but hard-to-reach corrosion. Continued failure means that you must use a continuity meter to check the circuit for open or shorted wires (the last is rare).

Once electrical conductivity is established, you should remove all the lamps and lightly coat the contacts with petroleum jelly—something you should have been doing all along.

Now, just before you're ready to haul, give the hitch lock a double-check to make sure ball and socket are positively seated. Incidentally, if you don't know the tongue weight of your trailer under its specific load, now's a good time to check it. If you know or can estimate the total weight of boat and trailer together, you can calculate the percentage of total weight at the tongue by using a bathroom scale and pocket calculator. Proper tongue weight is

between 5 percent and 10 percent of the total weight of the rig.

Of course, you are going to give the rig a walk-around inspection once you've hauled to make sure that the boat is drained and properly seated on the rollers and bow chock. But before you roll away, check the safety chains and safety strap. If you suspect any weakness here, secure the rig with alternate lines until you can replace the weak part. It's a good idea to use secondary tie-downs at the bow-eye and at the transom even if there are no problems, particularly if you must travel rough roads.

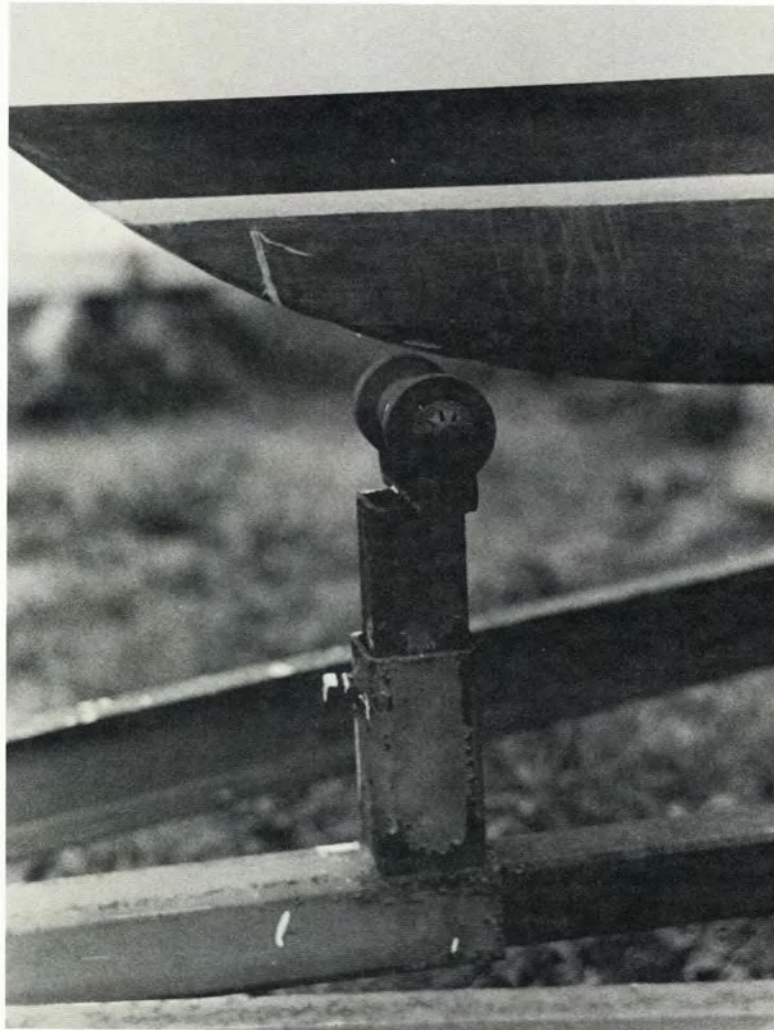
If you've followed the procedures outlined above, many of which could be spread out over several launches as part of your seasonal routine, you're more than halfway to a proper winter storage. All that remains is the final lay-up, which begins with removing all accessory equipment from the boat, washing the rig thoroughly, and optionally (but wisely) adding a coat of protective wax to both. If you choose to wax before storage, don't lay on a thick

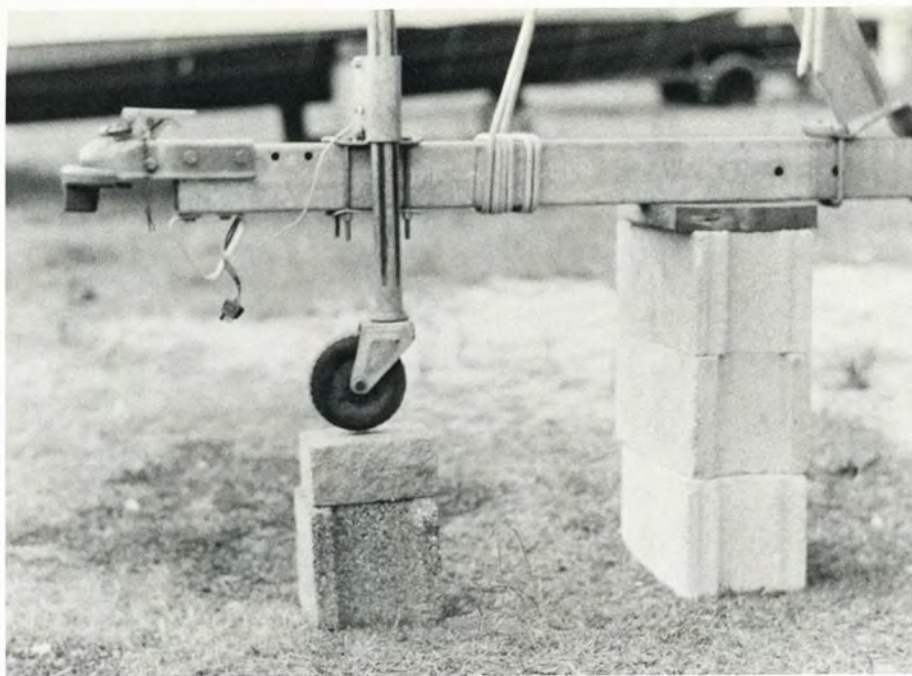
coat thinking you'll get added protection. It's not necessary. Apply a normal coat instead and leave it unbuffered. It's also a good idea to do the washing some place other than where you plan to block your trailer so you don't muddy the ground where you'll soon be crawling around.

Storage places

The best place to store a rig is under roof in a ventilated shed, but failing that luxury opt for the lee of house or garage, close enough for protection against the prevailing wind, yet away from any drainage from roof or gutter. Choose relatively level, firm terrain away from trees and shrubs. Prop or block the tongue, jack the rig slowly (preferably with a scissors jack placed under a scrap of plank and positioned beneath axle, spring shackle, or a

Lack of care in mating the boat to the trailer can result in hull damage. In this case, the bow chock was improperly adjusted.





At left, blocking the trailer tongue at the proper height ensures good drainage during storage.

sturdy cross-member) until the wheels are off the ground, then place blocks under the rear frames of the trailer, and level from side to side with small pieces of wood.


Now, jack up the tongue until you get a slight bow-to-stern angle for adequate drainage (don't forget to pull all drain plugs), and re-block the tongue at this height. You should be able to eyeball the rig and see the drainage angle, but it doesn't have to be steep.

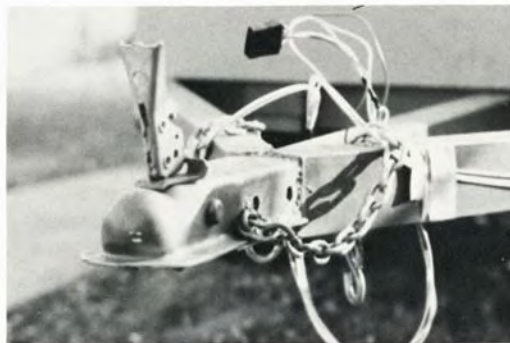
This is the time to pull the wheels, check the bearings for wear and repack (or replace) them. Dislodge debris from the tire treads, clean or repaint the rims, and store them away in the garage. Yes, I know, I know, few people do this, but it's still a good idea!

If you want to leave the wheels on the trailer after checking the bearings, at least rotate them. You'll be surprised how this simple trick evens out tire wear. If you have them, check the bearing protectors (if you don't this is also a good time to add them to your hubs) to make sure each grease fitting is unclogged. If you've been adding a little grease after each immersion (to force out any water that may seep into the hubs), you should find no problems at the hubs.

Check your lamp housings to make sure drain holes are open (you've already checked the sockets), secure any loose wires with ties or tape, and tape over exposed plugs and sockets. Do not cover the lamp housings with plastic because this only encourages condensation. Do, however, cover the winch assembly with plastic or cloth (open at the bottom) to fend off dirt and debris—a must for an electric winch, which usually has a custom cover available from the manufacturer. Another wise investment, particularly if you store your rig in an unprotected area, is a hitch lock for the trailer tongue.

Now, lay on your bows, braces, tarps, and tie-downs. Hopefully, your boat cover is long and wide enough to afford some protection to the trailer as well. But if not, don't worry. You've done the necessary things to preserve the rig through the rigors of winter.

You are almost ready for that distant spring. Almost because there is one more task. Reward yourself for a job well-done. 



At right, check all wires before storage. Make sure they're not worn. Tape them to reduce chafe and to keep them off the ground.



Above, look over your tires. Cracks along the tire's sidewall, as shown here, are a sure sign of fatigue. Time to replace this tire.

KIDS PAGE!

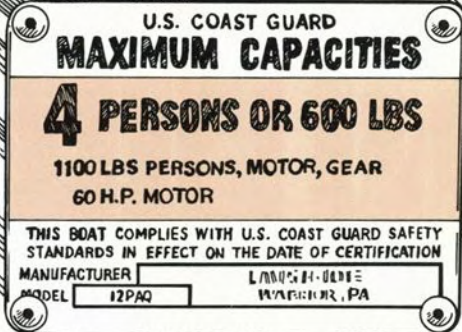
by Steve Ulsh

Capacity Plates

Many people think that boating accidents happen only when two boats collide or when a boat hits something else. Reports from the National Transportation Safety Board show that 90 percent of all boating deaths occur because the victims drown.

There are several reasons why a boater could drown. Some people fall over the side of a boat when they stand up and lose their balance. Some people are reckless in their boats and cause their boats to tip over because they are moving around too much. Some people just don't know how to handle their boats and cause the boat to tip over. Some people end up in the water without planning because they try to carry more people and equipment than their boat can safely handle.

All new boats sold since 1972 are equipped with a capacity plate installed by the manufacturer. Capacity plates give the maximum load and horsepower rating. Pennsylvania law requires that all boats sold or transferred must have a capacity plate—even if the boat was originally bought before 1972. If a boat does not have a capacity plate, a boat owner can get one by writing to the Pennsylvania Fish Commission, Bureau of Boating, P.O. Box 1673, Harrisburg, PA 17105-1673. The only exceptions to capacity plate requirements are sailboats, canoes, kayaks, rubber rafts, pontoon boats and other boats of unusual design. Capacity plates must be placed in a position that is in full view of the boat operator.



If your boat has no capacity plate, or if you are curious about how many people you can bring aboard your boat without creating a dangerous situation, here

is a simple formula that you can use to estimate the number of people your boat will safely carry:

$$\frac{\text{Length} \times \text{Width}}{15}$$

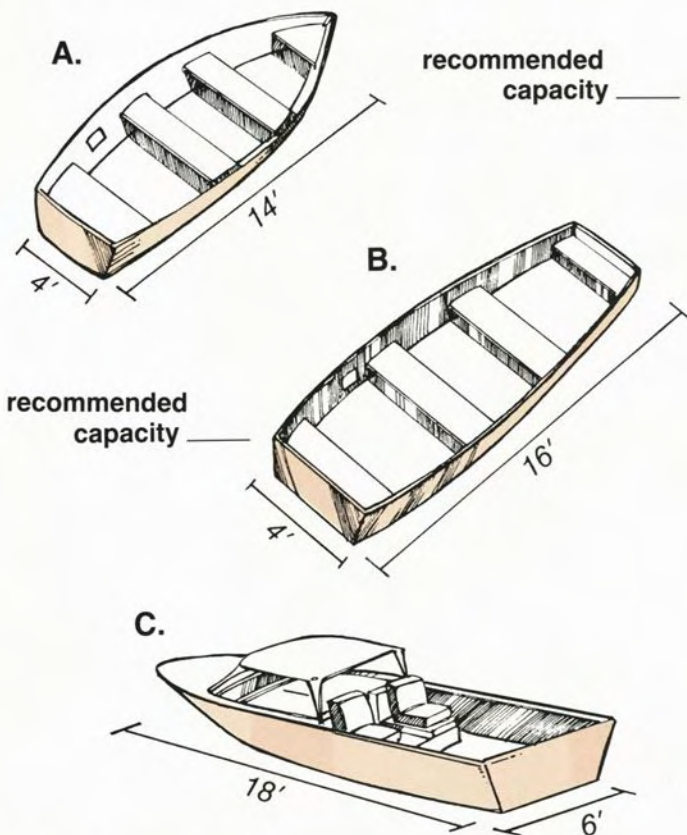
This formula was designed using 150 pounds as the average weight per person. If you have a situation in which you are planning to have adults and small children on the boat, you will have to adjust the formula.

EXAMPLE:

If a john boat is 12 feet long and 4 feet wide, the recommended capacity is 3 people.

$$\frac{12 \times 4}{15} = \frac{48}{15} = 3.2$$

Here are some problems for you to figure out. You will find three different boats. See if you can figure out the estimated capacity load for each boat.



Answers to Capacity Plates

- 3.2 = A
- 4.4 = B
- 5.6 = C

recommended capacity _____

Protect Your Prop

by Art Michaels

photos by the author

Whenever you motor in shallow water, you need to protect your propeller from the damage that hitting underwater obstructions can cause. This need is most important with small-boat anglers whose motors are less than about 15hp, even though some propeller guards are made for engines of much more horsepower.

The problem with prop protection is choosing the right prop guard for your engine and for your boating needs. Generally speaking, you will find forks, cages, and some other new designs on the market.

Forks

A fork is the simplest, least expensive prop guard, but because it's light, don't use one on an engine larger than about 7.5hp. The fork that works best is actually the business end of a dung fork, not a pitchfork. Pitchfork blades are just too wide and heavy for practical use. They interfere too much with the operation of the motor and they're too heavy for stable mounting on low-horsepower engines. A dung fork has thin, round prongs that create only a negligible drag in the water.

Forks are mounted to the lower unit by means of large, screw-tightened bands, just like the hose clamps you have underneath the hood of your car.

Cages

Another kind of prop guard you may want to consider is a cage-like metal attachment. OMC manufactures a prop guard that's about three inches wide from front to back, which encircles the prop. Many marinas and boating supply stores can or-



Cage-like metal protectors are useful on mid-sized engines of the 7.5hp and 9.9hp varieties.

der this guard for you, if they don't stock it. Other suppliers have welders make up batches of cage guards in a variety of sizes for all different kinds of engines. The OMC guard should be fitted only to Evinrude and Johnson engines of either 9.9hp or 15hp.

Medium-light engines in this range are best-suited for these kinds of guards. Forks are a bit too flimsy, and other guards would

be too heavy and would make the engine work too hard.

New designs

The last kind of prop guard is a new design that you can find at some marinas and boating supply stores. It's a shaft that mounts to the gear case, from which fins extend from back to front, encompassing the area of the propeller. The device is made of aircraft aluminum, which bends without breaking. This kind of guard is used on motors up to 35hp, so at faster speeds, striking an underwater object mangles the guard but saves the gear case



You'll find new prop guard designs sometimes. This guard is made of aircraft aluminum and protects this high-horsepower engine. On impact, the guard will be destroyed, but it'll save the prop and lower unit.

A fork is a good prop protector on engines of less than about 7.5hp.



and lower engine parts.

In general, all guards cost from about \$25 to about \$50 installed.

Cautions

Prop guards have disadvantages, which you should consider before you buy. First, when the guard is put on, never run the engine in reverse. In rocky, gravelly areas of lakes and rivers, running in reverse might be like hand-grenading your engine's gear case. Both forks and cages can kick up

stones in reverse, which are thrown into the prop. The prop then machine-guns the stones into the gear case, causing great damage.

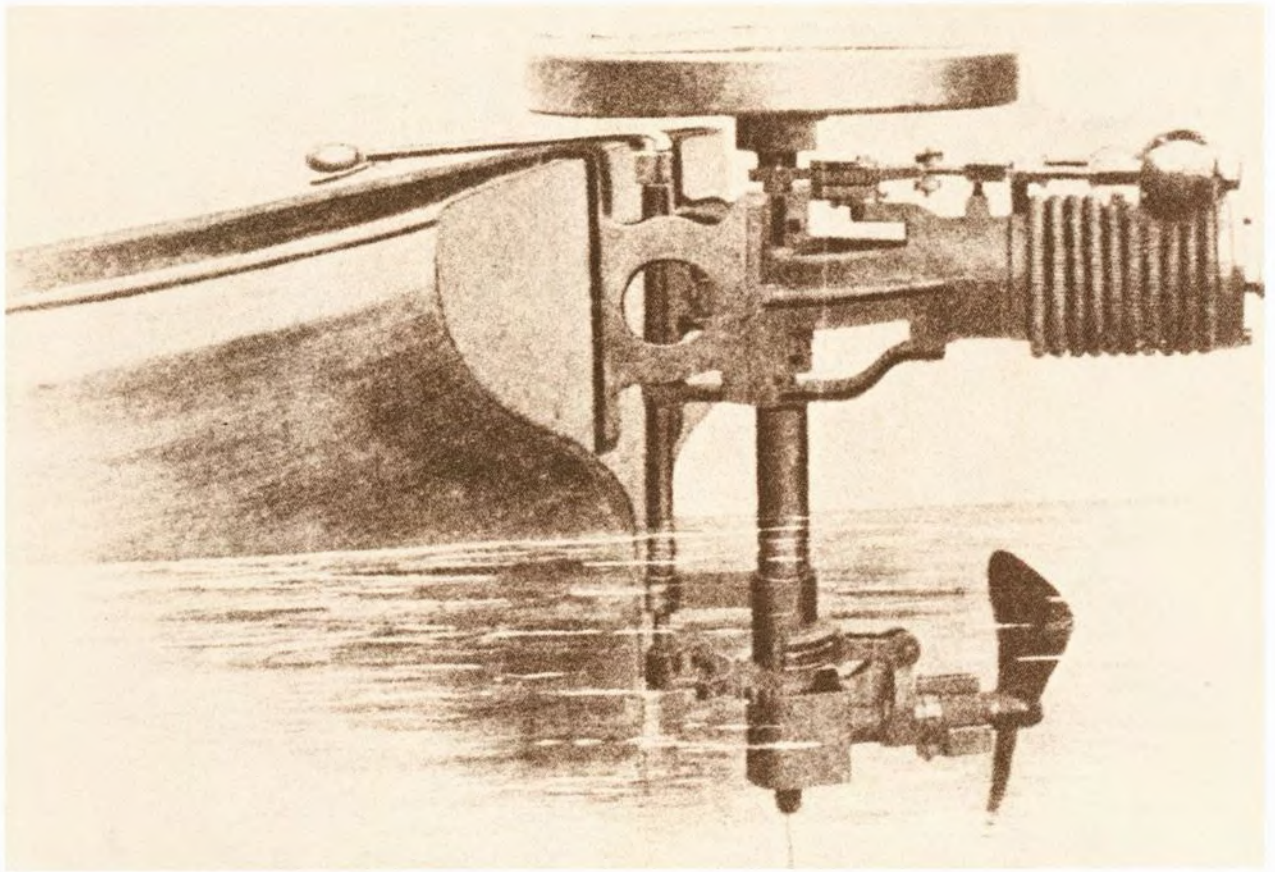
Furthermore, once you mount the prop guard, it's best to leave it there permanently, even though the guard isn't permanently welded to the motor. Taking the guard on and off could limit its ability to protect your engine when you need it—you have to have the guard securely braced to the gear case, and constantly removing

it and putting it back on could weaken the connection.

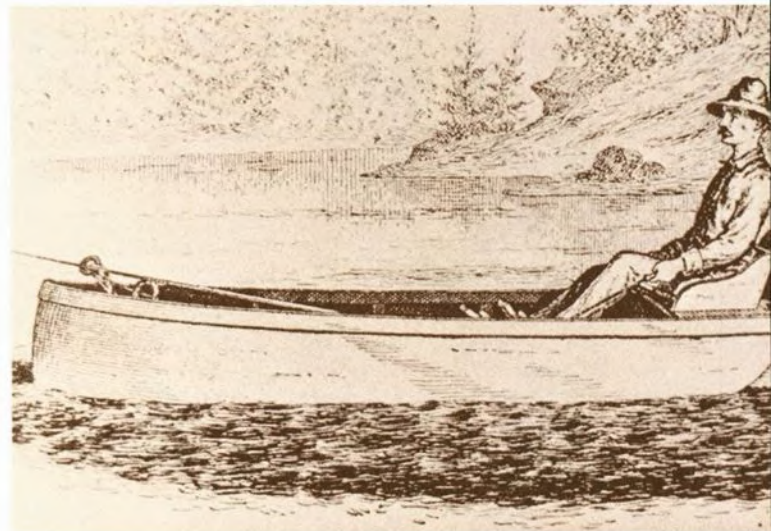
Do you really need a prop guard? If you boat often in shallow water, and you have an engine from 2hp to about 10hp, you probably do need one. A \$40 investment could pay big dividends when it saves your motor's propeller, drive shaft, and gear case from damage.



The Screw Propeller... Ancestor to the Outboard

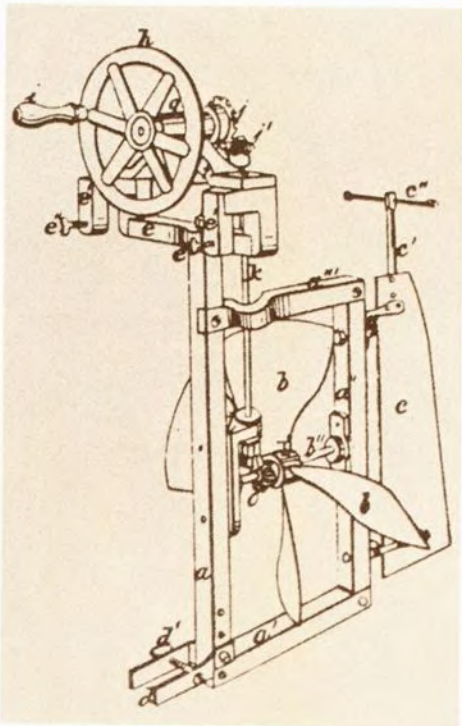


When inventors wrestled with the idea of a horseless carriage, a Pennsylvanian made history with his idea of an oarless boat.



by Richard A. DeBlasio

At the same time inventors were experimenting with the idea of a horseless carriage, a man from Pennsylvania was making history with his idea of an oarless boat. On October 23, 1866, Thomas Reece of Philadelphia patented the first propulsion device of its kind. The "screw propeller," as Reece called it, began an era of outboard motorboating that has been growing steadily ever since.



Above left, first commercially marketed gasoline outboard by American Motors in 1896. Above, Philadelphian

Thomas Reece's outboard design from his U.S. patent. At left, George Tibbles designed this Feather Blade Elliptical Propeller in the late 1800s.



photos provided by the author

Reece's invention looked more like an oversized version of grandma's kitchen handmixer than it did an outboard, but its objective proved otherwise. In his patent application, Reece stated, "... the size of this entire device is to be so constructed as to suit the capacity of the boat to which it is to be applied, it can be stowed away in the latter when not required for use. It is easily put in place, and will need, in most cases, not more than the power of a single man to give propulsion to the boat".

The speed and range of Reece's outboard were determined by how fast and how long a man could turn the crank, which turned gears and drove a propeller. Considering that the average man can develop only about half a horsepower when working at a rate that will not create rapid exhaustion, the speed of Reece's portable outboard would have kept it well below the horsepower restrictions mandated today on many Pennsylvania lakes.

Although there is some debate among historians as to how far Reece's invention ever got during its development phase, it introduced a new concept to boating. The patent specification described terminology familiar to modern boatmen such as flywheel, bevel gears, and propeller, making today's outboard a direct descendent of the screw propeller. The propeller that Reece designed for his outboard is similar to the type used today, but it is doubtful that Reece engineered for a specific pitch; that idea would come years later.

For the next 15 years, the U.S. Patent Office was kept busy processing applications from inventors eager to perfect a boat without oars. Even though many of these new propulsion methods were successful, the inventors may have been overly anxious in their quest. Hastily concentrating efforts on any and every idea to propel a boat, they overlooked Reece's original idea of "portable" power.

One contraption which veered off course was simply called a "propelling apparatus" by its inventor, A. E. Tangen in 1879. A more appropriate name would have been a boatcycle. The driver sat in the middle of the boat and used his feet to pedal a sprocket that turned a drive shaft, and ultimately rotated a screw-like propeller.

Then there was the inventor from New Jersey who developed the "feather blade elliptical propeller." By alternately pumping two push-pedals, two separate paddle

blades rotated in an elliptical cycle. Within each cycle the blades stroked the water and pushed the boat.

A swimming machine was also part of the technological collection of devices that propelled man, boat, or both. A person laid down on a flotation box and turned hand and foot gears. A propeller turned and moved the swimmer. Although the swimming machine was portable, it provided no application for powering a boat.

Foreign inventors also challenged the development of outboard propulsion systems. A Danish inventor went so far as to experiment with a machine that attached to a boat and duplicated the swimming action of a fish tail. Obviously, the idea blundered but managed to attract enough attention to survive the record books. Can you imagine what the fish must have thought?

In 1881, Reece's concept made an encore. Gustave Trouve of France added an electric motor to a design very characteristic of the screw propeller. The motor was powered by batteries and could easily be attached to or detached from the transom of a small boat. Records indicate that Trouve's motor could propel a boat with passengers a little more than three miles per hour.

Meanwhile, back in Pennsylvania, W. W. Griscom was developing a more efficient motor and suggested its application to an outboard. Griscom patented (but never built) an outboard that could incorporate his electric motor. His design also eliminated the rudder by providing the capability of hand turning the entire unit.

Schuylkill River milestone

As the intensity of outboard propulsion development increased, the Schuylkill River was the scene for yet another Pennsylvanian's contribution to the world of row-boat motoring. F. A. La Rouch reduced the weight of his electric outboard in 1884 by using aluminum parts in the motor. Little is known about the specifics of his design, but it was the first outboard to utilize aluminum. La Rouch's motorboat was a familiar sight on the Schuylkill for several years.

The major contributions of Pennsylvania pioneers Reece, Griscom and La Roche to the outboard industry surfaced when the first successful electric outboard was manufactured and marketed in the United States.

Near the end of the last century, the Electric Boat Company offered to the public a portable, lightweight electric outboard motor. The drive shaft extended horizontally three feet from the stern of a rowboat. While the motor weighed a mere 35 pounds, the battery box weighed in excess of 200 pounds. Advertisements for this outboard appealed to sportsmen for duckhunting or fishing, and stressed simplicity. The ad exclaimed, "just push the button."

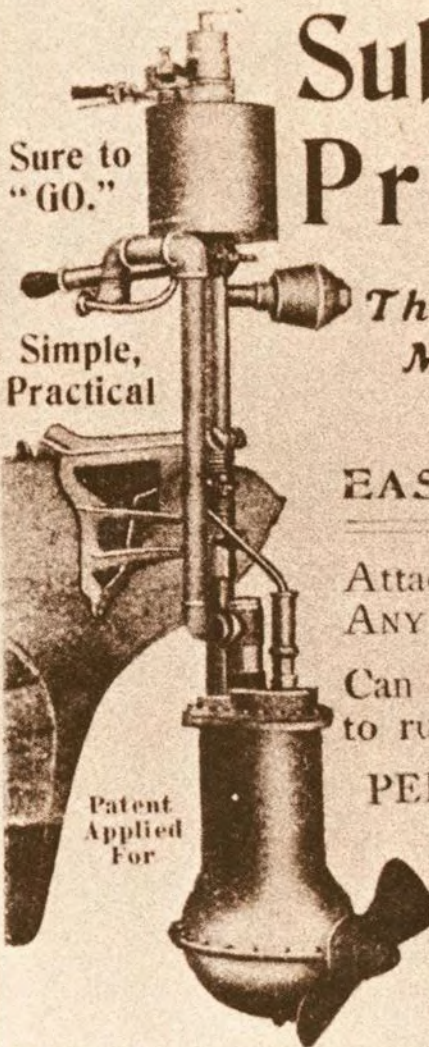
Electricity proved to be the only adaptable power source for outboards until the internal combustion engine was available. After the gasoline engine was developed in 1877, it took 16 years of engineering refinement before it was ready to be introduced to the outboard. The union between the gasoline engine and the outboard was accomplished by Gottlieb Daimler of Germany. The resulting gasoline-powered outboard engine was displayed in 1893 at the Chicago World's Fair.

Thirty years after Reece's monumental development in the outboard industry, the first gasoline outboard was marketed commercially when American Motors Company of New York produced 25 successful outboard motors. The "portable boat motor with reversible propeller" was manufactured as a four-cycle engine and was offered in either one or three horsepower. The units weighed 50 and 70 pounds respectively, and utilized Reece's mechanics of bevel gears, driveshaft, and propeller shaft. There is speculation among historians that lack of business expertise caused the company to collapse and disappear from the market as quickly as it had entered it.

"Outboard" originator

In the early years of the 1900s outboard development was still tugging forward when, in 1906, Cameron Waterman introduced the first rowboat motor manufactured on a production line. In that year, Waterman built and sold 25 air-cooled motors. Unlike its predecessor, the Waterman Marine Company tasted success. The following year the company converted the engine to a water-cooled unit and built 3,000 outboard motors. As the originator of the word "outboard," Waterman began his revolution with parts he purchased from a motorcycle manufacturer and later produced his own components. The inventor-turned-businessman built a test tank, recalled his wife, Lois, from Pittsburgh, to further develop his success. The "Waterman Porto" had a two-horsepower

New Portable Gasoline Submerged Propeller



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Most Powerful.*

EASIEST APPLIED.

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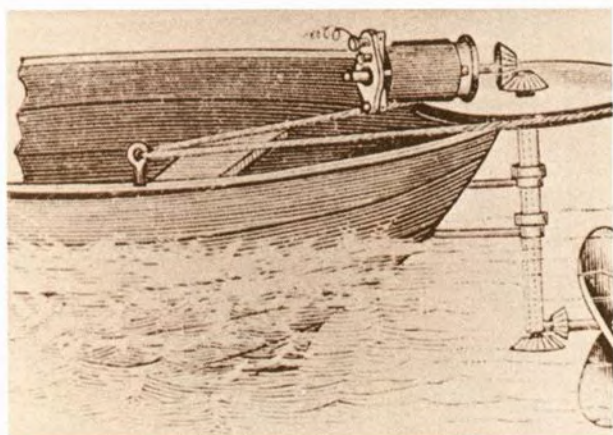
Entire Outfit is Out-
side of Boat.

INEXPENSIVE.

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SUBMERGED ELECTRIC MOTOR CO.
Menomonie, Wis.

*Above, a 1906
advertisement for
Submerged Electric
Motor Company. At
right, Pennsylvanian
W.W. Griscom's
electric motor design.*



engine and could propel an 18-foot rowboat seven miles per hour. "Forty pounds and easily detachable" quickly gained popularity for the Porto among sportsmen and recreational rowboaters.

Waterman sold his business to the Arrow Motor and Marine Company in 1916, where it was manufactured until 1924. A major advancement in outboards produced during this time was the variable pitch propeller, where the driver could adjust the pitch of the propeller from inside the boat with an adjustment rod.

The success of Waterman's venture became an invitation to others interested in the outboard industry. Names like Evinrude, Johnson, Elto, Caille, Lockwood and others contributed to the development of outboarding around the world.

Ole Evinrude and Pittsburgh

Evinrude Motors was founded in 1909 by a mechanically talented young man by the name of Ole Evinrude. After leaving home, Evinrude educated himself in engine building at machine shops, learned about steel in the mills at Pittsburgh, and became a toolmaker in Chicago. He combined his knowledge and built his first outboard motor in 1907. It sputtered, clanked, and coughed loud enough to attract the attention of the entire town. When others witnessed how successful his noisemaker was, Evinrude immediately received 10 orders. He built them by hand and sold each one for \$62.

When orders for the new 1½-horsepower engine increased, Evinrude's wife put an ad in the newspaper which read, "Don't Row! Throw Away The Oars. . ." Evinrude Motors was formed and the company sold 1,000 motors during its first year.

In his pioneering efforts, Evinrude eliminated the battery by introducing a flywheel magneto to his outboard and experimented with a weedless propeller.

But in 1914, Mrs. Evinrude's health began to falter and the company was sold with the agreement that Ole Evinrude could not return to outboard manufacturing for five years and could not market a motor under his name. Seven years later, Mrs. Evinrude regained good health and Evinrude returned to the outboard business.

His new motor was called the ELTO (Evinrude Light Twin Outboard) and was the first major improvement in outboards since the gasoline engine. The ELTO used massive amounts of aluminum and, at 47 pounds, was the lightest engine manufactured at the time. The Elto packed a whal-

oping three horsepower, which also made it the most powerful. Its popularity with fishermen and early recreational boaters quickly put it at the top of the market. Elto also developed the first four-cylinder outboard, the "Elto Quad," in 1928, the first underwater exhaust, and a folding outboard that easily transported and stored.

Roaring '20s

The 1920s were roaring with new outboard developments. By this time 38 manufacturers were competing in the industry.

Three Johnson brothers formed the Johnson Motor Company and in 1922 introduced the two-horsepower "Twin Lightweight" outboard to immediate consumer success. Three years later, you could buy a six-horsepower Johnson "Big Twin" for \$135. The Big Twin set a world outboard record of 16.5 miles per hour in 1925. Johnson Motors also added an anti-cavitation plate above the propeller that proved to be a significant development in the propulsion system.

The Caille Company pioneered a self-rewinding starter cord that eliminated turning the flywheel knob to start the motor. Caille also developed a crude form of combination steering handle and throttle knob.

The announcement of electric starting outboards was the first of many new developments by manufacturers in the 1930s. The new electric starter-generators eliminated knuckle-busting magneto winding for the increasing numbers of weekend boaters.

Outboard Motors Corporation (OMC), which resulted from a merger between Evinrude, Elto, and Lockwood, implemented protective shielding over the powerhead, which reduced engine noise considerably. OMC also got involved in outboard miniaturization for ease of portability and introduced a 25-pound outboard that proved to be a fisherman's favorite.

Other important developments in the 1930s included the "Aqua Flyer," (marketed by Johnson Motors). Although it was not successful, the combination boat and outboard in one package offered the first remote gas tank by incorporating a fuel pump in the engine. Gas tanks could now be stored inside the boat or removed for easier refueling.

More outboard manufacturers entered the market during the 1930s and into the 1940s, but World War II halted all production of outboard motors for civilian use. The Army found a need for outboards

on its assault boats and developments continued. Large 60-horsepower motors were designed with more emphasis on noise reduction.

After the war, prosperity characterized the American lifestyle and created a huge demand for outboard motors. To meet the demand, manufacturers concentrated more attention toward mass-producing outboards rather than advancing designs.

The 1950s

But the real explosion in pleasure boating came during the 1950s. More outboards were built and sold in this decade than in all the years since Reece's screw propeller. Besides the increased demand for more outboards, the public demanded faster ones. More than half the outboards in 1950 were five-horsepower or less. Only one company marketed motors greater than 25-horsepower, and the most powerful motor available was a 50-horsepower.

Within 10 years, less than one-fourth of the models on the market were five-horsepower or less and most of these were considered trolling motors. Some 30 models marketed exceeded 25 horsepower. As the trend for larger horsepower engines continued, manufacturers began producing four- and six-cylinder powerhouses and horsepower roared to 80.

Boaters in the 1960s were startled by an innovation to outboard boating called the jet outboard. An impeller pump mounted at the end of the drive shaft created propulsion by expelling water from the pump. The "jet" made it possible to take a boat in shallow water without the fear of damaging the propeller or getting it strangled with weeds. The Revely Corporation in Meadville produced jet outboards for some years, but lack of popularity phased it out.

Modernization of outboards has included styled fiberglass motor shields and colors for a handsome appearance. Remote controls made it possible to move the driver toward the bow of the boat. The use of rubber mounting on operating parts produced quieter-running engines. Thermostatic cooling systems kept the temperature constant, and new electronic ignition systems prolonged spark plug life and made starting a snap.

The result of Reece's pioneering effort represents a triumph to outboard boating in Pennsylvania. His invention has gone through many changes during its 121-year history, but its principle has remained the same.

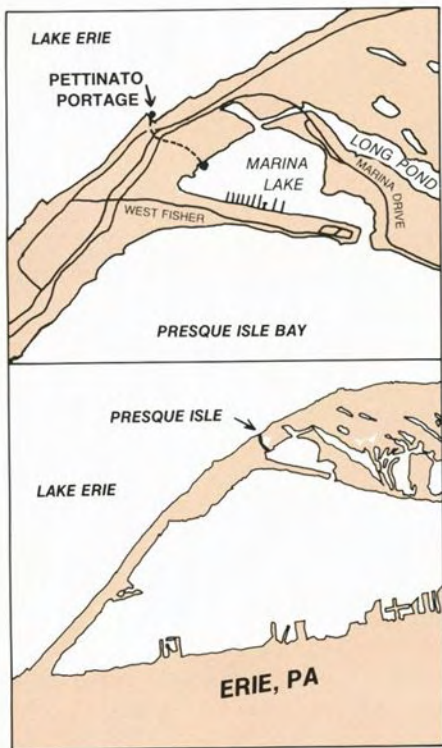


Water Rescue Workshop

The Pennsylvania Fish Commission Bureau of Boating is sponsoring a state-wide Phase I Water Rescue Basic Training Workshop on March 19 and 20, 1988, in Harrisburg. This course starts at 9:30 a.m., Saturday, and ends at 4:30 p.m., Sunday.

Topics to be covered in this basic rescue preparedness course include accident scene preplanning, basic rescue equipment, self-rescue and shore-based rescues.

For further information, contact: Boating Education, Pennsylvania Fish Commission, P.O. Box 1673, Harrisburg, PA 17105-1673. The phone number is 717-657-4540.



New Portage Path

The Pettinato Portage Path has been established across Presque Isle Peninsula to assist those using high-volume canoes in Lake Erie. The path was created so that canoeists would have a safe place to cross over to the bay if calm weather became bad. The path was named after Frank Pettinato, a 48-year veteran of lifeguarding on the peninsula, whose current title is "lifeguard manager."

U.S. Coast Guard Offers Consumers Information and Assistance

The consumer affairs staff of the U.S. Coast Guard provides a central point of contact for consumers or users of Coast Guard services who have questions or complaints concerning Coast Guard programs and policies.

Although established to deal primarily with boating safety, the consumer staff also assists consumers who want information on other public-oriented Coast Guard programs such as vessel documentation, commercial vessel operator licenses, aids-to-navigation services, draw-bridge operations, water pollution, search-and-rescue services, and vessel boardings for law enforcement purposes.

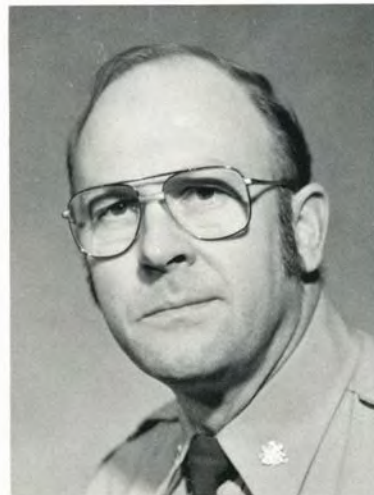
The consumer staff produces and distributes information on Coast Guard activities and policies through press releases, media articles, a newsletter called the *Boating Safety Circular*, and a series of Coast Guard consumer fact sheets. The fact sheets cover topics of interest to consumers—for example, the "Pros and Cons of Documenting a Boat," "Marine Sanitation Devices on Boats," and "Sources of Boating Safety Education." Single copies of the *Boating Safety Circular* and fact sheets are available at no charge.

The consumer staff also operates a toll-free boating safety hotline. The number is 800-368-5647. The hotline is available Monday through Friday from 8 a.m. to 4:30 p.m. It's designed to do three things: (1) tell boat owners and buyers whether a particular boat model has been involved in a safety recall (in some recalls, manufacturers are only able to notify a small percentage of current owners); (2) take reports from owners concerning safety problems in their boats to determine if a safety recall is warranted; and (3) answer questions on boating safety.

For additional information on U.S. Coast Guard programs, call or write to the Commandant (G-BC), U.S. Coast Guard, 2100 Second Street, SW, Washington, D.C. 20593. The phone number is 800-368-5647.

WCO Mantzell Selected Officer of the Year

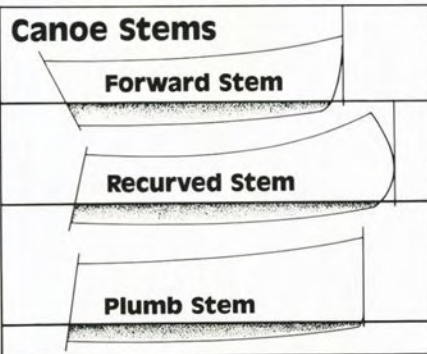
WCO William Mantzell (eastern Crawford County) has been named 1986 Officer of the Year by the Northeast Conservation Law Enforcement Chiefs Association of the Northeast Fish and Wildlife Conference.



Ed Manhart, director of the Commission Bureau of Law Enforcement, says that Mantzell was selected for this year's honor because of his Fish and Boat Code enforcement activities, his public relations efforts, protection of the waterways, attention to detail, and overall attitude and job performance.

Mantzell is a 19-year veteran of Fish Commission service in Washington and Crawford counties.

Each member state of the Northeast Fish and Wildlife Conference, from Maine to Virginia, selects its officer of the year, and the officers are recognized at the organization's annual meeting. This year's conference was held last May in Boston.





New Clarion River Map

The Western Pennsylvania Conservancy has published a new map pinpointing 18 boating access sites along the Clarion River, from Ridgway in Elk County to its confluence with the Allegheny River in Clarion County. The map also shows major tributaries to the Clarion River, as well as river miles between each access.

Copies of this new map are available for \$1 each by sending a self-addressed, stamped business-sized envelope to: River Map C, Western Pennsylvania Conservancy, 316 Fourth Avenue, Pittsburgh, PA 15222. The map can also be picked up at the Conservancy offices on weekdays between 9 a.m. and 5 p.m.

Sailing Publication

Sailing in Pennsylvania is a revised and reprinted Fish Commission pamphlet that details information on sailing nomenclature, righting a capsized sailboat, navigation rules, PFDs, and other practical subjects special to sailors. For a free copy, send a self-addressed, stamped business-sized envelope with requests to: Publications Section, Pennsylvania Fish Commission, P.O. Box 1673, Harrisburg, PA 17105-1673.

Benefiel, Noll Rescue Four

DWCOs Jesse R. Benefiel, Jr., and Timothy A. Noll were on routine boat patrol Sunday, July 26, 1987, and made two separate rescues, likely saving the lives of four persons.

At approximately 10 a.m. the officers observed at a distance what appeared to be a bather in the middle of the Susquehanna River adjacent to "Lock 2" near Long Level. Closer inspection led them to believe that the swimmer was in distress. As their boat neared the subject, she was reportedly "on her way down." The officers think that the boat's engine noise stimulated the subject into a last effort to stay afloat.

The female subject was secured into the patrol boat. She was noticeably under the

Outdoor Speakers Listing Available

The Outdoor Writers Association of America, Inc., (OWAA) has a speakers listing available on a wide variety of outdoor subjects. Many of the 300 speakers combine their talks with slide shows, films, videotapes or demonstrations. They are available to schools, colleges, clubs, outdoor shows, and exhibits. The listing contains the following information: name, address, phone number, availability, preferred audience, subjects, 1987 fee and expenses.

The listing is broken down into six categories that cover everything from edible plants to outhouses. The categories are:

- Fishing/Boating/Tackle
- Hunting/Firearms/Dogs/Legislation
- Conservation/Environment/Nature/Wildlife
- Photography/Writing/Journalism
- Camping/Backpacking/Hiking/Travel
- Miscellaneous

To receive the 1987 OWAA Speakers Listing, write to OWAA Headquarters, 2017 Cato Avenue, Suite 101, State College, PA 16801.

influence of alcohol and/or drugs.

Immediately requesting medical assistance by radio, the officers traveled to shore while attempting to maintain the subject's consciousness and learn what substance may have been ingested. On reaching shore where an ambulance was waiting, the subject became unconscious and was hurriedly treated and transported to a local hospital by medical personnel.

Hasty investigation revealed that the subject attempted suicide by ingesting six tablets along with approximately eight ounces of liquor. She had reportedly left shore for her "last swim" at 0745 hours, and her life was undoubtedly saved by two alert deputy officers.

During mid-afternoon on the same day, the hot, hazy weather gave way to swiftly approaching storm clouds from the north. Still on routine boat patrol, DWCOs Benefiel and Noll docked their craft to avoid the imminent bad weather. The storm ar-

River Safety Symposium '87

River safety is largely a matter of preparation; with the proper skills, the hazards of fast-flowing rivers can be greatly reduced. River Safety Symposium '87 is designed to give management and rescue personnel hands-on experience in the latest, most successful techniques of swiftwater rescue.

This year's symposium will be held October 15-16, 1987, on the Youghiogheny River at Ohiopyle State Park, Ohiopyle, Pennsylvania.

The symposium is sponsored by the Fish Commission, American Canoe Association, Pittsburgh Chapter of the American Red Cross, Ohiopyle State Park, Three Rivers Paddling Club, and Ohiopyle Boro Volunteer Fire Department.

River Safety Symposium '87 staff includes Virgil Chambers, chief of the Fish Commission Boating Safety Education Section, and Charlie Walbridge, safety chairman of the American Canoe Association and member of the *Boat Pennsylvania* Editorial Advisory Committee.

For more details of River Safety Symposium '87, contact Charlie Walbridge at 215-646-5034.

rived fast with downbursts, lightning, rain and large hail. Seasoned boaters questioned later estimated that wave heights were 5-10 feet.

Rather than remaining in deep water and riding out the storm, countless boaters rushed their crafts toward shore and docks where waves were more destructive. At the height of the storm, an incoming boater advised the officers that he observed a capsized sailboat with several subjects in the water drifting helplessly.

Without delay DWCOs Benefiel and Noll put out in search without assistance and located the victims, who fortunately donned type II PFDs. They secured them into the patrol boat with substantial difficulty, and navigated to safety. No injuries were sustained by either victims or officers, and the 18-foot sailboat was recovered by others after the storm's passing.—*Brian Burger, WCO, southern York County*



Award-Winning Boating Safety Film Available

The film "Judgment on the Water, A Lesson in Small Boat Safety" focuses on the hazards of sportsmen and small boats. The film, produced by Alan Madison Productions, is available to fish, game and boating agencies throughout the country. The Fish Commission became deeply involved in the production of the film, and the Bureau of Boating staff acted as consultants.

Some scenes were filmed on location in Pennsylvania. The film was structured around a series of highly realistic accident dramatizations, each a common small-boat mishap. Each accident sequence is carefully analyzed in the film. Questions addressed in the narration include:

- How and why did the accident occur?
- Just what went wrong?
- How might the situation have been avoided?
- What precautions should have been taken?
- How should the victims have reacted in the emergency?

The film was released in the summer of 1986. "Judgment on the Water" not only provides a wealth of clear-cut safety information but also goes a long way in helping to dispel the all-too-casual approach so often taken to boating. The Commission used the film immediately in its many sportsmen's group presentations.

Since its release, "Judgment on the Water" has won six major awards, including the Golden Eagle Award at the Chicago International Film Festival, the Outdoor Writers Association of America Film Award, and the Award of Honor presented by the National Committee of Films for Safety.

"Judgment on the Water" is available for use by clubs or organizations by writing to the Pennsylvania Fish Commission, Bureau of Boating, 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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Commission Water Rescue Program Distributed Nationally

The National Association for Search and Rescue (NASAR) has requested permission from the Pennsylvania Fish Commission to promote and distribute nationally the Commission's water rescue program.



Virgil Chambers, the Commission's chief of the Boating Safety Education Section and founder of the program, said, "It is indeed complimentary to the Commission's efforts in water rescue education that an organization such as NASAR is interested in our training program. It indicates to us that we are on the right track."

NASAR is a national organization comprised of dedicated volunteers and distinguished professionals—all active in search and rescue, disaster aid, emergency medicine and awareness education. NASAR is actively working toward developing improved coordination and communication among federal, state, local and volunteer search and rescue groups.

The Fish Commission first developed the program for the state fire academy as training for fire service personnel. The program quickly became popular and was expanded to police departments, park service personnel and other emergency rescue organizations.



The Commission plans to cooperate with NASAR to establish an instructor group to implement the water rescue program nationally.



Saving Fuel

With prices at gas pumps increasing, it's a thrifty idea for boaters to review their fuel-saving techniques. The Mercury Outboards boating authorities offer these suggestions for economizing on fuel in ways that won't cause you to economize on your boating or fishing enjoyment.

- Remember that boating fuel is consumed on the highway as well as on the water. Make sure your boat trailer's tires are properly inflated for improved gas mileage (longer tire life, too). Lubricate the wheel bearing periodically; reduced friction results in a smoother pull.
- Watch your boat's weight. The lighter your rig, the better the fuel economy will be, so check your gear and make sure you really need all the usual cargo. Balance your passenger load to help your boat get on plane quickly and reach the

desired speed without plowing. Use your outboard motor's power trim feature to minimize the amount of surface in contact with the water.

- Slow down. Wide-open throttle running can increase fuel consumption by 50 percent or more. Once you get on plane, it's far more economical to throttle back by about one-third.
- Avoid excessive idling. Whenever you have to stop, shut off the engine. A warm engine restarts easily without choking.
- Stay in tune. Proper ignition timing and clean spark plugs are necessary for optimum fuel economy. Your dealer should inspect your motor's carburetors for proper float level, correct jetting and smooth choke operation.
- Keep your propeller in good shape. A damaged prop is a power robber. Make sure your prop has the right pitch and diameter for your boat.
- Keep the boat's bottom clean. A slick hull reduces underwater drag.

Boating Safety Decal

The Fish Commission Bureau of Boating has available a waterproof decal that summarizes vital information on the uniform waterway markers that boaters in Pennsylvania are likely to see. The full-

color decal can be affixed to a boat where the operator can readily see it. The decal is available free of charge from: Boating, Pennsylvania Fish Commission, P.O. Box 1673, Harrisburg, PA 17105-1673. Include a business-sized stamped, self-addressed envelope with requests.

Calendar

October

- 3, 4** Fiddlers Elbow Slalom '87, Hummelstown, PA (John R. Gephart, 600 Kalla Drive, Harrisburg, PA 17109. Phone: 717-545-4580).
- 3, 4** Sailboat Races, Presque Isle Bay, Lake Erie (Erie Yacht Club, P.O. Box 648, Erie, PA 16512).
- 3, 10** Sailboat races, regattas, Lake Arthur, Moraine State Park (Moraine Sailing Club, P.O. Box 692, Pittsburgh, PA 15230).
- 5, 12** Sailboat races, Rose Valley Lake (Lycoming Yacht Club, Paul Blystone, RD Box 351, Williamsport, PA 17701).
- 10, 11, 18** Sailboat races, Marsh Creek State Park Lake (Marsh Creek Sailing Club, Russell DeLombard, 5219 Wayne Avenue, Philadelphia, PA 19144).

10, 11, 18, 25 Sailboat races, Lake Nockamixon (Nockamixon Sail Club, Inc., Craig C. Tourtellott, 153 Hilltop Drive, RD 1, Green Lane, PA 18054).

11 Bellefonte Slalom, Bellefonte, PA (PSOC Slalom Chairman, 4 Intramural Bldg., University Park, PA 16802).

11, 25 Sailboat races, Blue Marsh Lake (Blue Marsh Sailing Association, 3120 Octagon Avenue, Sinking Spring, PA 19608).

15-16 River Safety Symposium '87, Youghioghney River, Ohiopyle State Park, Ohiopyle, PA (Charlie Walbridge, 215-646-5034).

17-18 Easton Slalom (Pennsylvania Cup Championships final race), Easton, PA (Eugene P. Gallagher, 715 No. New Street, Bethlehem, PA 18018. Phone: 215-867-7971).

19 Pennsylvania Fish Commission meeting, George Washington Lodge, King-of-Prussia, PA (for more details, contact the Commission at 717-657-4522).

New Booklet For Personal Watercraft Users

Fun with Safety on your Personal Watercraft is the name of a 14-page booklet created for owners of these scooter-like inboard powerboats by the Personal Watercraft Industry Association (PWIA) and the National Marine Manufacturers Association (NMMA). It illustrates, with colorful drawings and easy-to-understand explanations, how to operate a personal watercraft "in a manner consistent with safety and good boating practices."

Based on international boating rules enforced by the Coast Guard, the new booklet is designed to complement information and guidelines from owner's manuals and manufacturer product labels.

Readers are instructed on subjects such as nautical rules of the road, navigating narrow channels and bends, and launching a personal watercraft. They are also familiarized with do's and don't's of personal safety such as wearing a flotation device and taking breaks to avoid fatigue.

Copies are \$1 each and may be ordered from the NMMA Association Services Department, 401 N. Michigan Avenue, Chicago, IL 60611.

25 Rowing races, Schuylkill River (Schuylkill Navy of Philadelphia, J. Sweeney, #4 Boathouse Row, Philadelphia, PA 19130). Competitive rowing events through 11/23.

November

22 Frostbite Regatta (rowing races—see Schuylkill Navy of Philadelphia entry for October 25).

23 Braxton Regatta (rowing races—see Schuylkill Navy of Philadelphia entry for October 25).

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 instance, if your group's event occurs in April, we must have the details in January. Send items to The Editor, *Boat Pennsylvania* "Calendar," P.O. Box 1673, Harrisburg, PA 17105-1673.

Confessions of a Barefoot Ski Coach

by John M. Cornish II

How did you become coach of the U.S. Barefoot Team, living in Pennsylvania? This question is usually the first I'm asked, immediately followed with, "You expect someone from the south to do that—that's really great." Looks of amazement, pride, and confusion are displayed as I explain about being the coach of the first U.S. World Championship Barefoot Water Ski Team.

My interest in water skiing developed from living on Youghiogheny Lake and growing up with boats at my father's marine business. I was always sneaking away from work to hitch a ski ride from any passing boat. People would ask to pull me just so they could watch me ski—barefooting was such a rare sight.

I have to give credit to the members of the West Shore Water Ski Club from Cleveland, Ohio, for really getting me started in the organization of water skiing. I was 15 or 16 when they visited our lake, watched me ski, and introduced me to the AWSA (American Water Ski Association), with a new world of tricks and skiing information. I learned quite a bit just from reading *The Water Skier* magazine and by trial and error.

My skiing companions and I started our own club and put on some small shows in the area. During the following years I had a chance to ski with a professional ski show but elected to finish college instead. As a teacher I had my summers to travel and ski throughout the eastern U.S. in ski shows and tournaments.

In 1978 the American Barefoot Club was born, the brain child of Bruce Kistler. Bruce, another Pennsylvania skier, moved to Florida and worked for the AWSA, the parent association of the ABC. He eventually became executive director of the AWSA. Many of his articles on water skiing appear in *Boat Pennsylvania*. Bruce requested my opinion and help in the development of the new barefooting organization. I answered by hosting the first eastern regional tournament.

That summer saw the first five regional tournaments, a national competition, and a U.S. team that traveled to Australia to compete and capture third place in the first world Barefoot Water Skiing Championships. I escorted the team as an alternate skier and one of the first two U.S. world judges.

As the ABC grew I participated in various capacities as a regional director, committee chairman, vice president, World Council member, scorer, driver, judge and two-time national champion. During that time the U.S. World Competitions were held in California, Mexico, and again in Australia in 1985. I was elected by the ABC board of directors to be coach for that return trip to Australia where we made our best showing of the four world championships held to that date.

In 1986 I retained my coaching position to travel to Germany to become the first U.S. World Champion coach, a title I cherish.

The coach's job of a barefoot team is quite different from that of a basketball or football team. It probably is similar to the job of a gymnastics team coach on a national level. The coach doesn't really work with each team member on an individual performance level. The team members are head-to-head rivals in the two years before the world competition. Suddenly they are thrown together to capture a team title while individual medals are still at stake. The barefoot team coach must know the capabilities of each skier on his team and make a calculated guess to advise the skiers as to what type of a performance they should turn in.

As strange as it may seem, the top skiers should not necessarily turn in their best scores. To understand this, an explanation of team scoring is necessary. Team scores are taken from the top four skiers' overall points; male or female, for each event. Overall points are calculated on a base of 1000 points. The winner of an event re-

ceives 1000 overall points. All the other competitors in that event receive a portion of 1000 points based on their event score compared to that of the winner's event score.

For example, a skier scores 2000 points in barefoot tricks and wins the event, so he receives 1000 overall points. The second-place skier scores 1000 points in tricks, which means he would receive 500 overall points. The formula would look something like this:

$$\frac{1,000}{\text{winning score}} \times \text{any competitor's event score}$$

It is important that a team member score in the upper portion of the total competitors' scores, but in a close grouping so that the skiers' overall points are hopefully all in the 900 to 1000 point range. If you do not hold back the exceptional skier the margin is greater and the team scores fall.

Both the team and coach understand that the team title is first priority and individual medals are fringe benefits picked up on the way. The coach's calculations are the only indicator on which the decisions are made and those calculations are merely hypothetical. No one can really know how a skier has performed until the officials' scores are posted, although we have been fairly accurate in our calculations. This has been accomplished through knowing the background of the skiers along with a corporate coaching staff.

I have always employed the assistance of the team manager and another assistant, each with a walkie talkie to be strategically positioned along the course to call a skier's run. With this setup we are able to know most outcomes before they are posted, although surprises do occur.

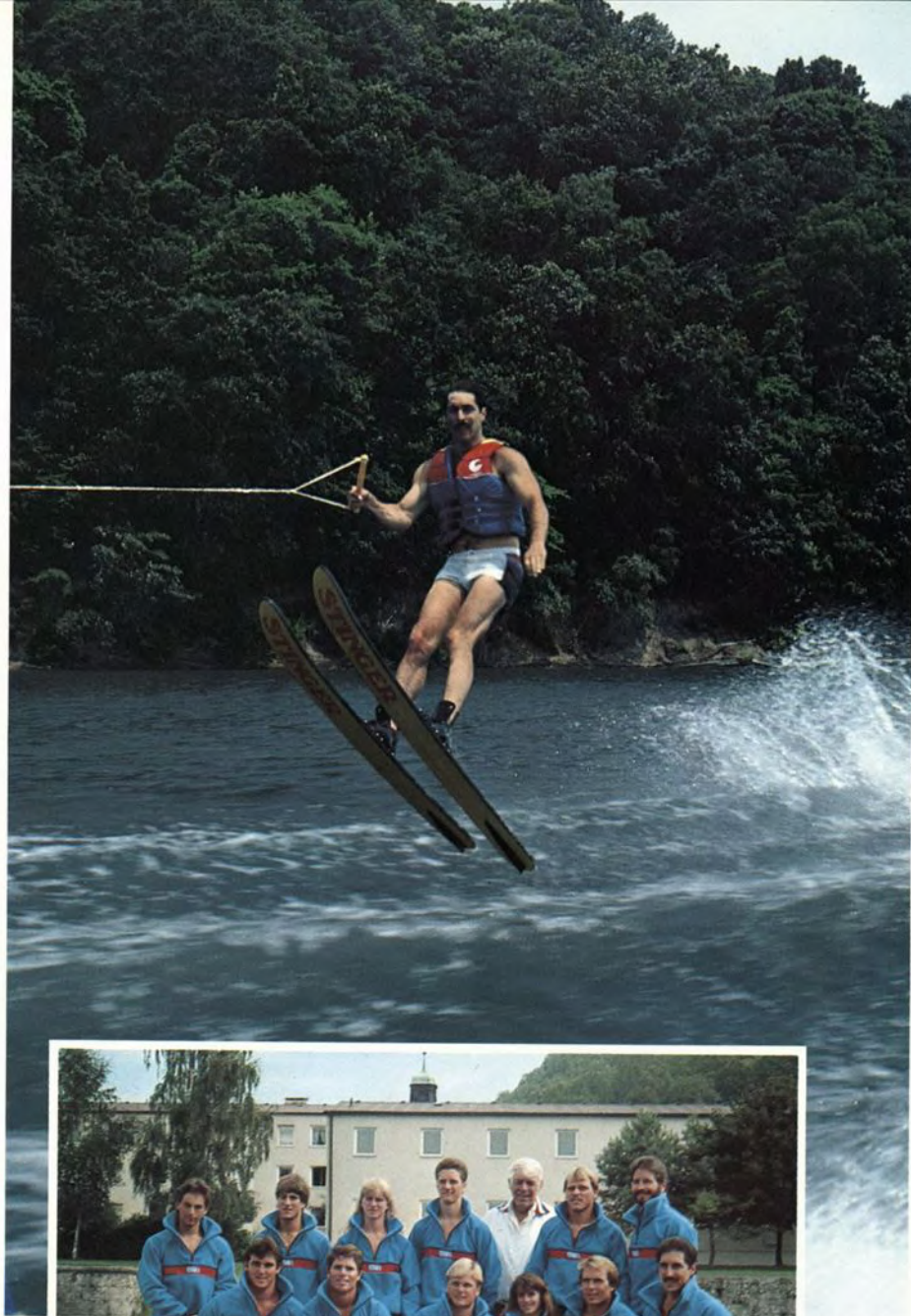
Aside from the calculating and monitoring of skier performances, the coach has various other tasks. In these tasks the coach must work closely with the team manager. The manager is re-

The author tries out a pair of jump skis. Last summer he coached the U.S. Barefoot Ski Team to its first-place win in international competition. The team won the 1986 World Barefoot Championships in Kelheim, West Germany.

sponsible for travel arrangements, lodging, food and the team budget. The team is under his guidance once the team meets for departure to the tournament city. The team members live in all parts of the U.S. and meet for departure. Upon arrival in the tournament city the team becomes property of the coach. It's a unique feeling of responsibility when the parents who are traveling with the team verbally acknowledge your guardianship of their children. The coach becomes the parent, confidant, disciplinarian, friend and coach.

This guardianship of the team involves the establishment of curfews, meal and meetings times, and team rules. Practice times and efficient use of time must also be controlled by the coach. The coach is ultimately responsible for any team decisions although team and staff discussions help decide some of these decisions.

Another job that the coach has is to arrange sightseeing and team activities. My background as a school teacher influences me to make sure that the team gets to enjoy the culture of the countries we visit. It's very important for the team members to enjoy themselves as well as do a job. It also helps to keep the team occupied and out of trouble. Only one of the five world championships has been in the U.S. Australia has hosted two and is scheduled to hold the 1988 championships as well. The other two championships were held in Mexico and Germany. The most recent World Barefoot Championships, held in Kelheim, West Germany, in August 1986, resulted in the first U.S. victory, a proud moment for the team in that the U.S. dethroned the four-time world champions, the Australians. The championship team was made up of the following individuals: Mike Seipel, Theinsville, WI, two-time world champion 1984, 1986; Ron Scarpa, Lakeland, FL, 1986 world championship runner-up; Don Mixon, Jr., Land-O-Lakes, FL; John Strasser, Muskego, WI; Punky Forgiana, Oklawaha, FL; Rick Powell, Lakeland, FL; Russ Connely, Orlando, FL;



Lori Powell, Lakeland, FL.

Alternates were Jennifer Calleri, Buffalo Grove, IL; and William Farrell, Byron, CA, team captain. The team managers were Stew McDonald, Tampa, FL, and James Baron, CA.

The world championships drew approximately 80 competitors, (70 males and 10 females) from 14 different nations. The tournament is the most important event for barefooters that takes place every other

year. It is filled with pomp and circumstance for a test of athletic skills. The skiers take great pride in representing their country and wish to share their triumph with you, and I had the honor of coaching them to first-place victory. ▀

John M. Cornish II is a member of the Boat Pennsylvania Editorial Advisory Committee. He lives in Rockwood, PA.

PFDs For Paddlers



by Cliff Jacobson

There are ribbed vests and Mae Wests, horse collars and panel jacs, float coats and impact (ski) vests; longies, shorties and inbetweens, and styles and colors to match your every need. Finding the right PFD for canoeing is easy, if you know what to look for!

The first time you capsize in nasty water, you'll understand the true meaning of the word "life jacket." From then on, you'll wear yours *all* the time—while paddling and portaging, drifting and dreaming, and as a warm garment around camp.

Given this intensive use, proper fit is *everything*. How the vest feels on your body is every bit as important as its performance in water. But not all life vests are suitable for canoeing: Some are impossibly hot to wear; others chafe arm pits



Above, testing a PFD for ride-up is one of the first trials you should put a PFD through. This test simulates the life jacket's performance in water.

or chin, or ride up over your head in water. Still others are too stiff and bulky for strenuous paddling. And even the best models don't provide a universally good fit for everyone.

For these reasons, it's best not to buy a PFD by mail. Sizing, cut, flexibility and utility vary widely from manufacturer to manufacturer.

Here's how to test the fit of a PFD that catches your fancy. First, try the vest over the bulkiest clothing you plan to wear canoeing. Then perform these tests:

● **Ride-up:** Grasp the jacket by the shoulders and lift it upwards until the fabric jams under your armpits. This simulates performance in water. Now turn your head right and left. You should be looking *over* your shoulder, not at fabric-encased foam. Does the V-neck of the vest crunch against your chin? If so, keep shopping. PFDs that force the chin up may have a more positive righting moment that do those that don't, but they hinder maneuverability in water—exactly what you don't want when you have to swim a rapid.

● **Buoyancy:** Standard procedure for floating rapids is to get on your back, feet held high to prevent somersaulting in the current and to prevent foot entanglement in bottom obstructions. Use your feet and paddle to ward off rocks. In this attitude, the flotation foam on your chest is worthless, so reject any PFD that has a skimpy or skeleton foam back.

● **Arm function:** Take a seat. This test won't work while standing or kneeling. Now, work your arms vigorously in a paddling motion. Reject any vest that chafes under the armpits. You'll find it intolerable to wear over the long haul.

● **Flexibility:** Hold your arms chest-high and draw them smartly inward as far as possible. Does the vest bunch up in front and cramp arm motion? If so, keep shopping!

Don't be surprised if you can't find a PFD that passes all four tests. Unless you have a book-perfect build, none will.

Tuning your PFD

Any PFD that has been altered is no longer Coast Guard approved. It's a reasonable law, and for the most part a good one. But some paddlers, especially short-waisted ones, have a hard time finding

PFDs that don't chafe under the armpits. The solution is to live with the vest and cuss it at every opportunity, or throw it into the bottom of the canoe to be worn "only when necessary." A more reasonable alternative is to cut out a small amount of obtrusive foam. However, doing so will negate both the CG approval and increase ride-up in water. The trade-off is increased comfort—a jacket you can live with. *You must have another appropriate unaltered PFD aboard to meet legal requirements.*

If trimming a sliver of foam from a delicate place means you'll wear the PFD more frequently, then do it. In any case *do* try the vest in water under controlled conditions. Don't save experimentation for the river!

Realistic buoyancy ratings

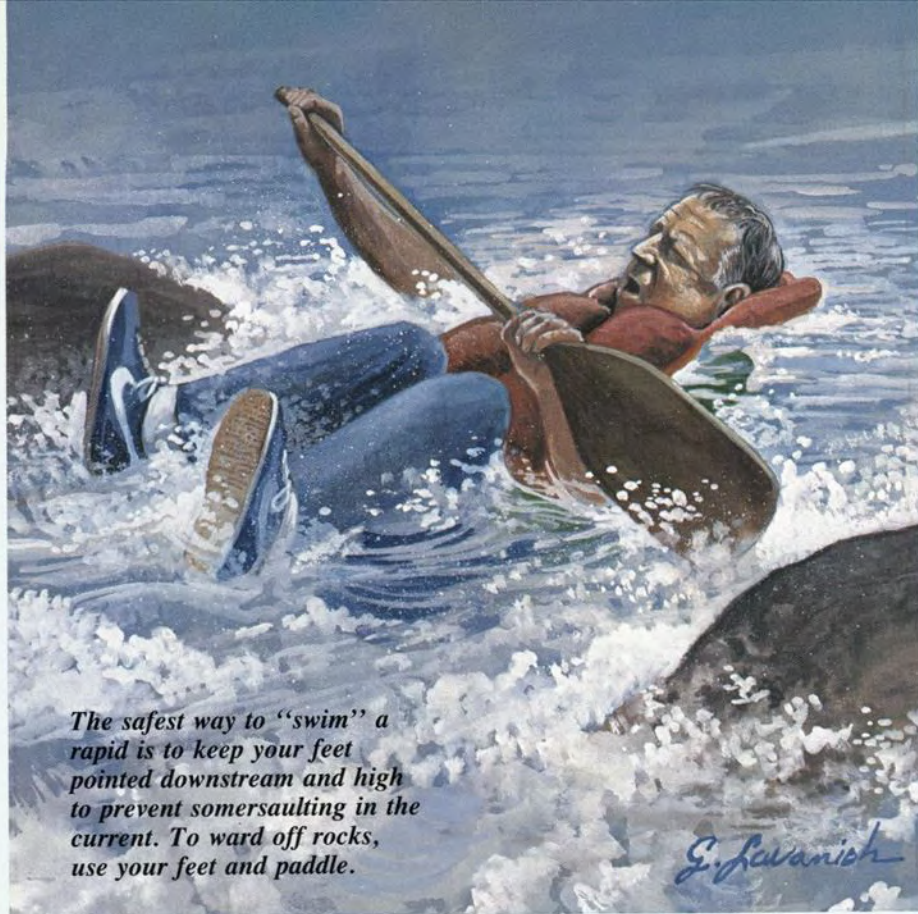
It began in the early 1970s with the development of U.S.C.G. approved type III life jackets, which are designed for active wear. Adult type IIIs must have a minimum of 15½ pounds of buoyancy. They do not have a 100 percent guaranteed "righting moment."

Before the advent of the type IIIs, knowledgeable canoeists relied on incredibly comfortable foreign vests like the Harishok and Flotherchok, which boasted 11–13 pounds of flotation (and were not Coast Guard approved), but worked fine, mainly because that amount of buoyancy is sufficient to float the vast majority of adults.

Nonetheless, the extra few pounds of flotation was a safety factor. The Coast Guard liked the idea and so did prospective buyers. Today, the 15½-pound rule is law, and the wonderful old foreign vests have gone the way of the passenger pigeon.

I have no qualms with the 15½-pound minimum. It's the "more is better" philosophy that I question. For example, as hair boaters began to appreciate the merits of the higher float vests, they begged manufacturers to build models with still greater buoyancy. Soon 17- and 19-pound vests became commonplace. One maker boasts 21 pounds—in type III configuration!

On the surface, it would seem that the greater the buoyancy, the better the jacket. But that's only the case in very highly aerated water—Class III-V stuff, which most canoeists don't paddle. Extra buoy-



The safest way to "swim" a rapid is to keep your feet pointed downstream and high to prevent somersaulting in the current. To ward off rocks, use your feet and paddle.

ancy requires extra foam, which translates to added bulk. The old 13-pound Hari-shoks were slim and flexible; they begged to be worn. The 15½-pounders were less tolerable, and so it goes. Unless you really need the protection of a high-float PFD, you should avoid it. High-float vests are expensive, hot and bulky—not practical for casual canoeing.

Style

The style that's best for you depends entirely on your point of view.

Orange horse collars are bulky, boring, and badly suited to swimming. They are designed to float an unconscious swimmer head-up in flat water (which can't be said for the more stylish type IIIs), and they are very inexpensive. But few canoeists can stand to wear them for very long, reason enough to eliminate them from consideration.

Panel vests have one or two foam panels in front and back, and adjust by means of side cords or belts. Panel vests are the most popular of the type IIIs and for good reason: They're slim (some are made to look like designer clothing), cool in hot weather, and widely adjustable. A "universal adult size" will fit nearly everyone, which isn't true for the form-fitted tubular types.

Most novice canoeists like panel vests. Serious paddlers loathe them, wisely ad-

vising that they restrict motion and ride up in the water. A crotch strap or tight fit eliminates this difficulty, but each is a sacrifice to convenience or comfort.

Tubular PFDs are the Porches of the canoeing world and consist of a dozen or more vertical tubes, each of which is filled with short lengths of closed-cell foam. Generally (though not always), the greater the number of compartments, the more flexible and comfortable the vest. All have a vertical zipper and waist tie or belt. Crotch straps are usually not necessary to prevent ride-up.

Tubular PFDs are the most comfortable of their ilk both in and out of water, but they tend to retain body heat and so are a poor choice for hot weather. They're sized like suit coats, which means they'll fit only the wearer. If you've got a growing teen on your hands, better forget them.

Longies or shorties?

Tube vests come in long (regular) and short lengths. The long ones feature more flotation and are secured with a zipper and waist tie. The bottom skirt snaps up and out of the way for kayak use.

The shortie version, which ends above the waist, has no skirt or waist tie and is therefore more comfortable when paddling decked kayaks and slalom canoes.

Which model is best for you depends on your physique and the type of boat you

paddle. Safety-wise, longies are better. In fact, when the skirt is folded up, the vest molds so solidly to your body that there is virtually no ride-up in water. What you feel on land is what you get in water—an ideal situation.

Short-waisted folk will quickly discover that most standard-length tubular vests chafe under the arms when worn with the skirt down. That's because when the canoeist is seated, the skirt hem rests on the thighs, which forces the vest upward. Of course, you can fold up the skirt, in kayak fashion, but this restricts ventilation and becomes intolerable on warm days.

In contrast, the shortie solves these problems but creates others: It offers less protection against hypothermia, exhibits more ride-up in water, and does not protect your lower back from a cold following wind.

My choice? I'm short-waisted so prefer a shorty for most of my paddling. For tough rips, I use a standard-length tubular model with the skirt folded up.

Color

There's a color for every occasion, but in your zeal to match a Yuppie wardrobe, please remember that PFDs are lifesaving equipment. Try locating a grass-green PFD in a sea of green water and you'll understand the importance of blazing bright colors.

Special considerations for kids

Buoyancy in water depends on the amount of body fat, not scale body weight. Thus, a stringy 120-pound teenager may need *more* flotation than his 230-pound dad. Manufacturers do a surprisingly good job of matching PFDs to body weights, but their formulas are naturally imperfect. Youngsters *absolutely* should try their flotation devices in a pool before they commit to the waterway. And incidentally, so should you!

And a final warning: Never put an adult or youth-sized life vest on a small child. Simply strapping it tightly won't ensure proper function in water. Toddlers have much more of their body mass in their heads than do adults. Consequently, PFDs must be designed accordingly. An "incorrectly sized" life vest can hold a child upside down and drown him! If you're serious about canoeing with your kids, you'll buy them the appropriate life vest. And you'll get a new, enlarged model every year or two during the growing cycle. Yes, it is expensive. And worth it!

For Variety, try Youghiogheny River Lake



by John E. Mahn, Jr.

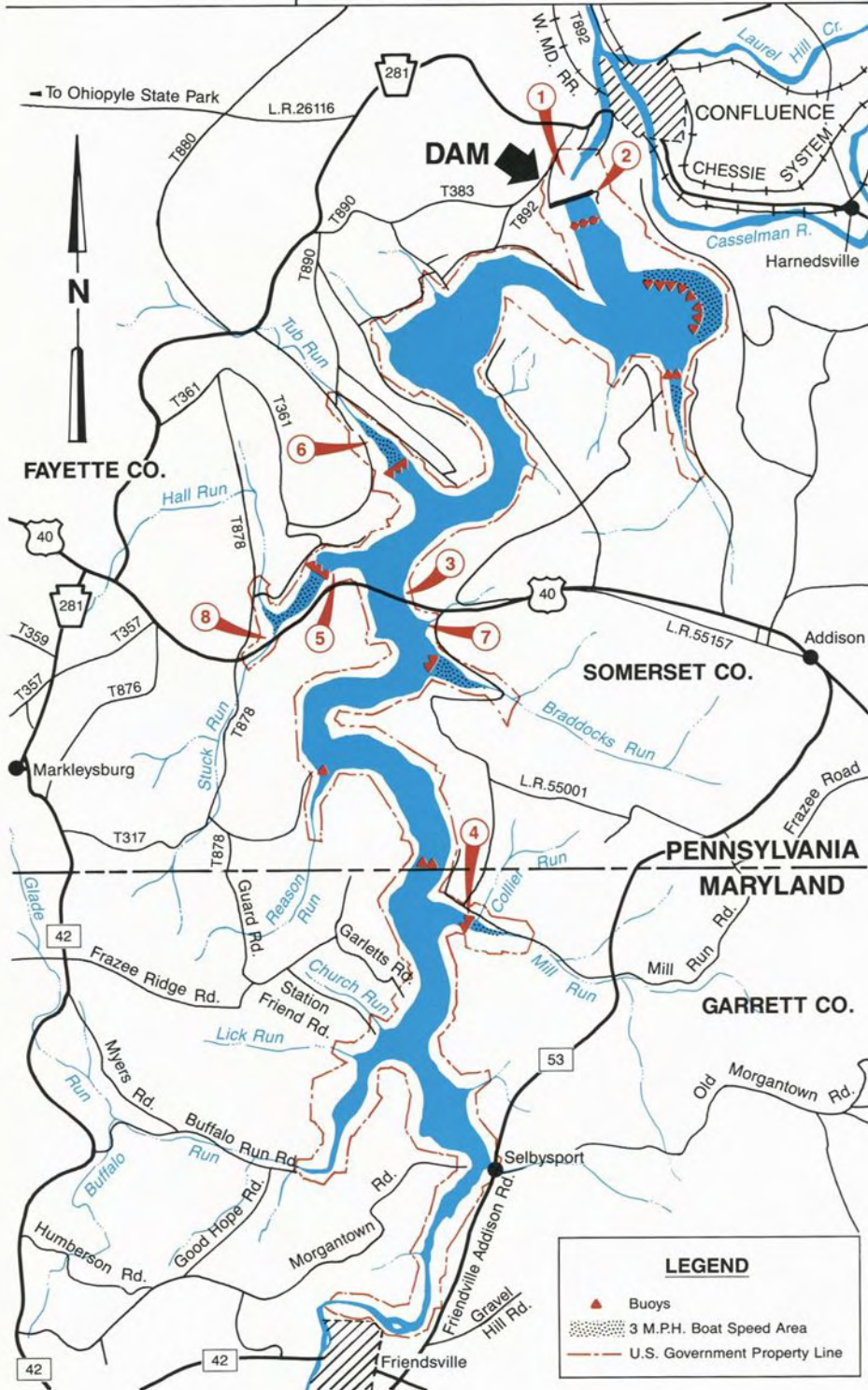
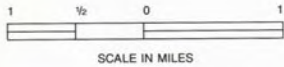
YOUGHIOGHENY RIVER LAKE

Public Use Area

CORPS OF ENGINEERS RECREATION AREAS

- ① Outflow Camping Area
- ② Youghiogheny Recreation Area
- ③ Somerfield North
- ④ Mill Run Recreation Area
- ⑤ Jockey Hollow Picnic Area & Info Center
- ⑥ Tub Run Camping Area

- ⑦ COMMERCIAL Somerfield South Concessionaire
- ⑧ OTHER AGENCY Jockey Hollow Boat Launching Area



Built as a flood control dam by the U.S. Army Corps of Engineers in 1943, "Yough" River Lake lies in the heart of southwestern Pennsylvania's most scenic and historic countryside, the Laurel Highlands. Straddling the Mason-Dixon line between Maryland and Pennsylvania, the lake winds 16 miles up the steep mountain valleys from the place where the Youghiogheny River was dammed in Confluence, PA.

In addition to providing flood control, the lake also helps maintain downstream water quality and flow. By releasing more water during low periods, water quality is improved by diluting pollutants. Increased stream flow also improves navigation for barge traffic on the Monongahela and upper Ohio rivers.

The lake itself covers some 2,840 acres at normal pool. It has the capacity to store some 11 inches of runoff from its 434 square-mile drainage area. Since its completion, the project has prevented flood damages estimated at more than \$138 million.

By Memorial Day, the lake reaches its summer pool level of 1,439 feet above sea level. In June or July the pool starts to drop, and is down some 25 feet by Labor Day. This low water level creates some launching problems for boaters later in the season, because the lake loses one-third to one-half of its total volume of water.

Boating access

With channels up to a half-mile wide, and with no horsepower restrictions, Yough River Lake is considered the best powerboating and water skiing lake in southwest Pennsylvania. There are three ramps for day use boating, one at the dam site, and two located off U.S. 40, which crosses the lake at Somerfield.

Youghiogheny River Lake Statistics

The Yough River Lake dam is located on the Youghiogheny River about 1.2 miles above Confluence, PA, in Fayette and Somerset counties. The dam has been in operation for 44 years.

The lake's surface area at maximum summer pool is 2,840 acres. The lake's summer pool is some 16 miles long.

To reach the launch area at the dam site, take Route 40 east from Uniontown for about 20 miles, then go north on Route 281 for 8 miles to the dam. The paved ramp is reached by driving across the top of the dam to the east side of the lake. A swimming area and restroom facilities are also located here in the Youghiogheny Recreation Area.

Located just off U.S. Route 40 are two more launch areas. On the west side of the lake, the Fish Commission maintains a ramp at Jockey Hollow. Across the lake on the east side is the Somerfield North Area. Both areas have restroom facilities, but the Somerfield area also provides boaters with a picnic and swimming area.

The lake's only marina is located on the east side of the lake, just south of U.S. Route 40. Yough Lake Marina sells gas and oil, does repair work and has some boats available for rent. The marina also provides docking for some 300 boats.

Camping is another popular activity at the lake. Although no camping is allowed on shore, boaters have three camping areas to choose from, with facilities ranging from primitive to modern.

Outflow Camping Area. Boats must be trailered to this fee area, located off route 281 directly below the dam. Facilities include picnic tables, fire rings, drinking water, showers, flush toilets and a sanitary dumping station. The camping season runs from May to October. Phone: 814-395-3944.

Tub Run Camping Area. This area has a total of 101 campsites and is located on the west side of the lake approximately 5 miles from the dam off Route 281. This area has a launch ramp, and boats may be kept in the water while camping. Other facilities at this fee area include showers, flush toilets, drinking water, picnic tables, fire rings and a sanitary dumping station. The camping season runs from Memorial Day through Labor Day. Phone: 412-329-8342.

Mill Run Recreation Area. This area, just over the Maryland line on the east side of the lake, can be reached off Maryland Rt. 53. There are 30 campsites in this primitive area, all of which can be used at no charge. A boat ramp is available, but launching becomes difficult once the lake level drops more than 15 feet. Other facilities include picnic tables, fire rings, drinking water, flush toilets, and a sanitary dump station. Phone: 301-746-5248 or 814-395-3242.

Whether you water ski, fish, camp or cruise, Yough River Lake offers boaters an unsurpassed setting for outdoor recreation.

Reservations are not accepted at any of the lake's campgrounds. Pets are permitted, but must be kept under physical restraint. All areas have playground equipment, and other activities, such as nature walks, slide programs, crafts and movies, are available from time to time. Alcoholic beverages are permitted on the lake, but are prohibited in all the recreation areas. A 24-hour information service listing lake levels, fishing conditions and lake events is available by calling 814-395-3166.

Water skiing and fishing are two of the most popular boating activities on the lake. They do not necessarily conflict, because of the lake's size and configuration. Powerboats tend to stay in the main channel, while anglers prefer the many secluded bays and no-wake areas that the lake offers.

Early and late in the season, excellent catches of walleye and smallmouth bass are taken. From just after ice-out until Memorial Day, fishing boats outnumber water skiers. From Memorial Day to Labor Day, good fishing can be found in the no-wake areas and the small bays that surround the lake. After Labor Day, anglers find that they have more and more of the lake to themselves.

Congestion

A study conducted in 1983 by the Corps' research center identified several congested areas on the lake, one of which was the Route 40 area. Another area of congestion was found in the Maryland end of the lake near Selbysport. Besides boats docked at the marina, there are some 600 private docks as well as 13 boat clubs on the lake. In an attempt to preserve the lake's aesthetic value, the Corps instituted a management plan to limit development in congested areas, and ensure that the scenic beauty of the lake would be preserved. The study also concluded that almost half of the accidents and drownings on Corps projects are alcohol-related. For this reason, an alcohol ban is now in effect on the lake.

Historic sites

The lake itself offers boaters numerous activities, but the surrounding area is rich in history and culture. Fort Necessity National Battlefield is less than 15 miles from the lake. It was here where George Washington encountered his first military action in 1754, at the start of the French and Indian War. In 1755, British General Edward Braddock was mortally wounded. He was buried along U.S. Route 40 near Fort Necessity.

Following the Revolutionary War, the government recognized the need for good roads across the mountains, and financed the construction of our first National Road. By the 1820s, this road, now known as U.S. Route 40, was carrying passengers and freight westward. More than a century later, when the Yough River Lake was under construction, World War II halted work on the Route 40 bridge that spans the lake. Steel used in the construction of the bridge was diverted to the war effort, and construction stopped. Although the dam was completed in 1943, flooding did not take place until 1948, when the bridge was completed. If you look closely at the bridge, you notice that half is constructed of steel, and half is concrete.

Fallingwater, one of Frank Lloyd Wright's most widely acclaimed works, is also located near the lake. Completed in 1939 as a summer home for Pittsburgh department store owner Edgar J. Kaufman, the house rises out of a waterfall, surrounded by native rhododendron and mountain laurel. If you feel like exploring, Laurel Caverns, Pennsylvania's largest caverns, is also near the lake, and guided tours of the unusual limestone formations are offered.

Whether you prefer to ski, fish, camp, or leisurely cruise the quiet backwaters, Yough River Lake offers boaters an unsurpassed setting for outdoor recreation. Its clean waters, mountains and steep valleys provide the perfect background for boating pleasure.



